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Agricultural Resources

Agricultural Land Values and Markets

Situation and Outlook Report

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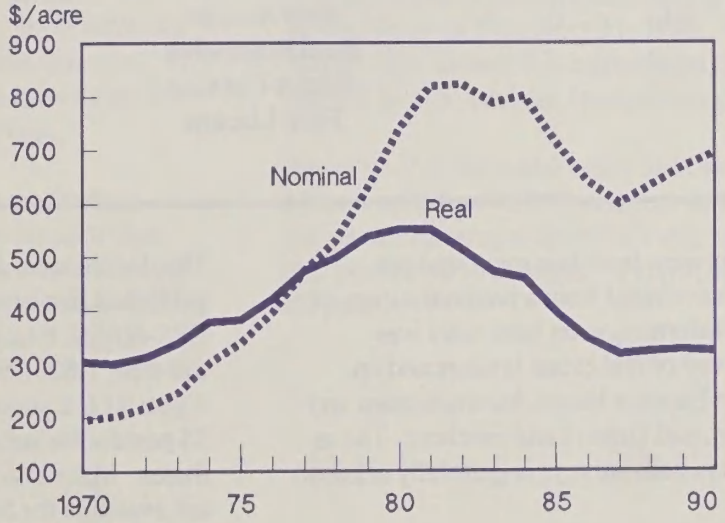
Average Real and Nominal Values of U.S. Farmland



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Contents

	Page
Summary	3
Outlook	4
Value of U.S. Farmland 4 Percent Higher	6
Substantial Recovery in Some State Values	9
Recent Updates in Farmland Values	9
Cash Rents in 1990	12
Farmland Transfers	13
Foreign Ownership of U.S. Agricultural Land by J. Peter DeBraal	23
Farm Real Estate Tax Developments by J. Peter DeBraal	25
List of Tables	31
Appendix Tables	31
Special articles:	
Revisions in the Farmland Value Series by Fred Kuchler and Oscar Burt	32
Rural Land Transfer Rates by Judy Peterson	36
What Low Rent-To-Value Ratios On Cash Rented Farmland Tell Us by Karl Gertel and Felix Llacuna	39

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Basic data in this report were from two main sources. Farmland values were developed from a national survey of farmers and ranchers. Information on farm sales was provided through a survey of real estate brokers and appraisers, officials of the Farmers Home Administration and the Farm Credit System, and farmers and ranchers. The assistance of participants in both surveys is gratefully acknowledged.

Approved by the World Agricultural Outlook Board. Summary released June 22, 1990. The next summary of *Agricultural Resources,* which will feature cropland, water, and conservation, is scheduled for September 21. The summaries and text of situation and outlook reports may be accessed electronically. For details, call (202)447-5505.

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Summary

U.S. farmland values in 1990 are expected to rise 3 to 4 percent, close to last year's 4-percent increase. The 1990 forecast incorporates net farm income close to the 1989 record level, slightly lower inflation-adjusted interest rates, slightly lower inflation, and recent changes in farmland values.

The U.S. average farmland value rose in 1989 for the third consecutive year, reaching $693 per acre as of January 1, 1990. Recent gains have produced a 16-percent recovery in farmland value since the 1987 low. Values were higher in 8 of the 10 farm production regions during 1989.

Because 1989's 5-percent inflation rate exceeded the 4-percent gain in farmland values, U.S. real (inflation-adjusted) farmland values fell slightly from a year earlier. Real farmland values have remained virtually flat since 1987.

Several factors contributed to the moderate rise in nominal values in 1989. Net farm income was record high, while net cash income was only 7 percent below the 1988 record. Farm real estate debt, total farm debt, and the ratio of farm debt to equity all continued lower in 1989. Interest rates on farm real estate loans averaged about the same as a year earlier, but real rates were slightly lower because of higher inflation.

Other factors may have had a dampening influence on farmland values. Returns on farm assets averaged between 4.5 and 5 percent over the past 3 years, while Treasury bills, providing more liquidity, earned close to 7 percent. The cooling national economy in 1989 softened the demand for land for nonagricultural uses. Continuing uncertainties about the 1990 farm bill and changes in tax laws likely affected investors' decisions in farmland markets.

The Northern Plains and Southeast regions showed the strongest regional increases in farmland values with both averaging 8 percent higher in 1989. Values also rose in Appalachia (7 percent), the Lake States (6 percent), Pacific (6 percent), and the Mountain (5 percent) regions. Smaller gains occurred in the Corn Belt (2 percent) and the Delta States (1 percent). Average values showed no change in the Northeast, and were 2 percent lower in the Southern Plains.

Cash rents for cropland generally increased in the Corn Belt and Northern Plains regions, partly due to favorable wheat and cattle prices. Pasture rents were generally higher in the midsection of the country and in western regions.

Voluntary and estate sales accounted for 70 percent of farm real estate transfers in 1989. About 11 percent resulted from foreclosure, bankruptcy, and condemnation sales and transfers. Farm owner-operators bought just over 55 percent of the farmland acres transferred in late 1989; nonfarmers purchased 33 percent. Nearly 90 percent of the farmland transferred is expected to remain in agricultural uses over the next 5 years. Shifts out of agriculture were expected most often in the Northeast, Appalachia, and Southeast regions.

Nearly two-thirds of the sales involved financing, compared with 90 percent in the early 1980's when farmland prices were highest. The ratio of debt to purchase price averaged close to 70 percent, about the same as a year earlier. Seller financing provided about 28 percent of the credit among reported sales, up from last year's 24 percent. Other principal suppliers of financing included commercial banks (28 percent), the Farm Credit System (27 percent), and insurance companies (8 percent).

Foreign interests acquired an additional 263,000 acres of U.S. agricultural land in 1989, raising the total to 12.9 million acres, as of December 31, 1989. Less than 1 percent of all privately owned U.S. agricultural land and only about 0.5 percent of U.S. land are foreign owned.

Taxes on U.S. farm real estate in 1988 totaled just over $4.3 billion, up 1.7 percent from a year earlier. The nationwide tax per acre averaged $4.92 in 1988, and the tax per $100 of full market value averaged 77 cents, slightly below 1987's 80 cents.

Outlook

U.S. farmland values are currently forecast to average 3 to 4 percent higher during 1990, an increase close to 1989's 4-percent gain. During the past 3 years, U.S. farmland values averaged just over 5 percent higher, slightly above the average inflation rate. In 1990, however, U.S. farmland values may rise more slowly than inflation, leading to slightly lower real (inflation-adjusted) value. The 1990 forecast hinges on net farm income nearly unchanged from 1989, slightly lower real interest rates on farm real estate loans, slightly lower growth in inflation, and recent changes in farmland values. The forecast was developed from a national forecasting model.

Investors typically consider costs and returns over a multi-year period when buying farmland. Even though the 1990 projected income and interest rate are comparable to those in 1989, the slightly lower growth rate for 1990 farmland values may result from several uncertainties. In addition to uncertainties about growing conditions and market prices, concerns about the upcoming 1990 farm bill, possible revisions in capital gains tax, and outcomes of the GATT trade liberalization negotiations will affect investors' expectations of returns to land and, in turn, farmland values over the next several years.

In 1990, net farm income, the net value of current year's production, is forecast to be close to last year's record level. Somewhat lower Government payments are expected to be more than offset by higher farm receipts with total expenses expected to be only slightly greater. Net cash income, the net value of current year's sales, is forecast to be higher in 1990. State and regional shares of national farm income will partly depend on production decisions and growing conditions, including recent flooding in several Southern States and prolonged drought in several Western States.

Improvement in the export market offers the most likely source of significant increases in U.S. commodity prices and in returns to land. Exports in fiscal year 1990 are currently forecast to be slightly above a year ago.

Interest and inflation rates are expected to be slightly lower in 1990, with slight effect on finance costs for purchasing farmland and for operating expenses. Returns to farm equity are currently forecast at 3 to 4 percent for 1990, compared with 3.1 percent in 1989.

The 6-year decline in farm real estate debt and total farm debt may level off or rise slightly in 1990. Ratios of debt to equity have been declining since 1985 and may edge lower in 1990.

Other sources reinforce the projected 3- to 4-percent increase in U.S. farmland values. In the April 1990 Economic Research Service (ERS) survey of a national panel of accredited rural appraisers, respondents expected a 3.9-percent increase in U.S. average farmland values during April 1990 to April 1991, compared with a 5-percent gain reported for

Figure 1
Changes in Per Acre Nominal U.S. Farmland Values

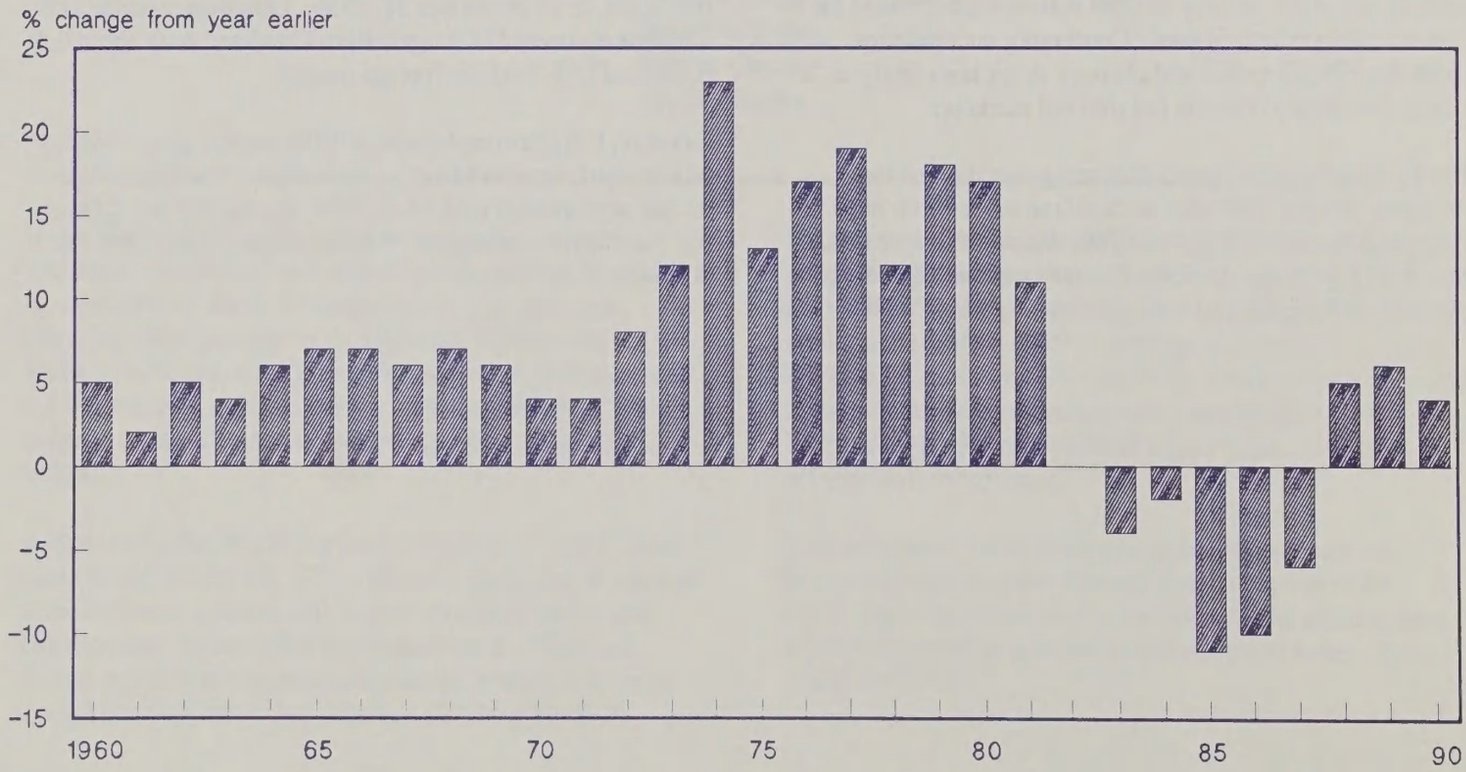


Table 1.--Average per acre value of farmland and buildings, by State, 1983-90 1/

State	As of April 1			As of February 1				As of January 1	Percent change
	1983	1984	1985	1986	1987	1988	1989	1990	1989-90
	Dollars								Percent
Northeast:	1,343	1,391	1,346	1,340	1,491	1,586	1,794	1,802	0
Maine	708	713	774	854	885	962	1,029	1,029	0
New Hampshire	1,174	1,253	1,439	1,682	1,847	2,112	2,260	2,260	0
Vermont	842	862	947	1,060	1,114	1,124	1,203	1,203	0
Massachusetts	1,963	2,083	2,377	2,761	3,012	3,553	3,802	3,802	0
Rhode Island	2,760	2,770	2,990	3,284	3,389	4,748	5,080	5,080	0
Connecticut	2,655	2,723	3,005	3,372	3,557	4,171	4,463	4,463	0
New York	817	848	820	843	960	993	1,053	1,042	-1
New Jersey	3,140	2,959	2,951	2,997	3,729	3,969	4,644	4,737	2
Pennsylvania	1,520	1,596	1,427	1,332	1,540	1,579	1,911	1,911	0
Delaware	1,829	1,840	1,596	1,684	1,677	1,765	2,065	2,334	13
Maryland	2,121	2,236	2,197	2,023	2,009	2,261	2,487	2,512	1
Lake States:	1,160	1,147	952	797	707	788	831	885	6
Michigan	1,223	1,255	1,108	1,012	924	971	1,000	1,060	6
Wisconsin	1,113	1,104	944	836	777	826	867	867	0
Minnesota	1,165	1,131	898	694	587	700	749	831	11
Corn Belt:	1,482	1,449	1,108	972	900	1,003	1,107	1,129	2
Ohio	1,504	1,500	1,215	1,136	1,097	1,199	1,271	1,258	-1
Indiana	1,610	1,647	1,344	1,167	1,061	1,158	1,251	1,288	3
Illinois	1,837	1,845	1,381	1,232	1,149	1,262	1,388	1,416	2
Iowa	1,684	1,518	1,091	873	786	947	1,108	1,130	2
Missouri	856	875	689	648	604	640	678	706	4
Northern Plains:	528	518	412	360	331	368	401	435	8
North Dakota	439	447	373	334	303	319	329	348	6
South Dakota	348	363	289	267	238	269	293	337	15
Nebraska	701	645	485	416	400	457	526	562	7
Kansas	601	597	488	415	373	413	438	473	8
Appalachia:	1,082	1,107	1,035	1,025	1,004	1,037	1,095	1,171	7
Virginia	1,125	1,125	1,112	1,179	1,154	1,198	1,354	1,597	18
West Virginia	688	698	607	616	633	682	716	652	-9
North Carolina	1,314	1,429	1,331	1,254	1,259	1,263	1,339	1,325	-1
Kentucky	1,049	1,034	955	941	878	896	923	1,034	12
Tennessee	1,014	1,024	944	935	936	1,001	1,021	1,052	3
Southeast:	1,092	1,105	1,068	1,038	1,055	1,130	1,202	1,296	8
South Carolina	946	926	898	870	792	871	949	949	0
Georgia	929	921	886	853	889	920	1,003	1,053	5
Florida	1,576	1,645	1,599	1,537	1,605	1,790	1,897	2,125	12
Alabama	826	824	797	803	786	800	832	882	6
Delta States:	1,038	1,074	1,012	880	757	781	803	808	1
Mississippi	894	950	855	778	685	697	718	754	5
Arkansas	972	964	907	779	724	761	784	776	-1
Louisiana	1,351	1,430	1,407	1,191	921	940	959	940	-2
Southern Plains:	574	632	675	579	532	531	518	508	-2
Oklahoma	699	718	597	520	475	480	523	513	-2
Texas	544	612	694	594	546	544	517	506	-2
Mountain:	314	327	300	267	257	257	261	274	5
Montana	259	276	243	233	200	205	209	243	16
Idaho	814	808	739	631	552	572	601	685	14
Wyoming	193	199	181	159	157	147	143	153	7
Colorado	454	469	437	360	368	369	369	369	0
New Mexico	178	194	185	161	156	180	193	200	4
Arizona	289	311	295	271	299	279	276	268	-3
Utah	560	570	513	476	451	425	425	404	-5
Nevada	249	262	244	219	240	227	234	201	-14
Pacific:	1,356	1,399	1,293	1,201	1,084	1,089	1,140	1,208	6
Washington	933	972	943	840	756	739	769	815	6
Oregon	705	719	615	570	541	542	542	602	11
California	1,918	1,981	1,841	1,730	1,554	1,575	1,670	1,753	5
48 States	788	801	713	640	599	632	667	693	4

1/ Current dollars. Revised 1984-89 values based on values from the 1987 Census of Agriculture. Details in special report, "Revisions in the Farmland Value Series."

April 1989-90. In the preceding January 1990 survey, appraisers expected a 3.1-percent rise during January 1990-91, down from the 4.8-percent increase reported for January 1989-90.

Value of U.S. Farmland 4 Percent Higher

U.S. farmland values rose for the third consecutive year in 1989, but the 4-percent increase fell short of 1988's 6-percent gain. As of January 1, 1990, the per acre value of farm real estate averaged $693, 16 percent above the $599 in 1987 when declines in average U.S. values seemingly bottomed (table 1). The 1990 value is still 16 percent below the record $823 in 1982.

Because 1989's overall inflation rate was nearly 5 percent, it more than offset the 4-percent advance in farmland values. Consequently, real U.S. farmland values actually fell slightly from a year earlier. There has been no recovery in real farmland values which have been virtually flat since 1987.

Several indicators underlie the moderate rise in nominal values last year. Net farm income (the net value of current year's production) was record high in 1989. Net cash income (the net value of sales), while 7 percent below the 1988 record, was still the third highest ever.

Farm real estate debt and total farm debt continued a 6-year decline. Farm debt, at the end of 1989, had fallen about 28 percent below its 1983 high. The ratio of farm debt to equity has declined steadily since 1985. Interest rates on farm real estate loans in 1989 averaged about the same as a year earlier, but real rates were slightly lower because of higher inflation.

However, these propitious indicators may have been offset by other factors. Returns on farm assets averaged between 4.5 and 5 percent over the past 3 years, while Treasury bills have earned close to 7 percent (8.1 percent in 1989). Treasury bills and other securities also provide more liquidity to investors taking a wait-and-see attitude regarding farmland investments.

The cooling national economy in 1989 dampened demand for land for nonagricultural uses. Continuing uncertainties about the 1990 farm bill and changes in tax laws likely affected investors' opinions of farmland values.

Underlying these national indicators are several factors affecting each region's land values differently. Although farmland values rose in 8 of the 10 U.S. farm production regions in 1989, value changes varied significantly within and among regions. One factor is the nature of the demand for land. In some regions, land is primarily demanded for agricultural uses. In East and West Coast regions, a diversity of demands—agricultural, urban, recreational, and rural housing—helped maintain farmland values in the mid-1980's when values in other regions fell sharply.

The January 1990 value of farmland and buildings for the 48 contiguous States totaled $685 billion, 4 percent above a year earlier (app. table 1). Because the acreage in farms and ranches does not change much from year to year, the percent changes in total value closely parallel changes in per acre values of farmland.

The per farm value of farmland and buildings in the 48 contiguous States averaged just over $316,000 as of January 1, 1990, 4 percent above a year ago (app. table 2). The average size of operations was 456 acres.

Average value per farm was highest in the Mountain region ($553,200) primarily because of the large scale of operations, averaging 2,019 acres. But, because a large proportion of the area is relatively low-valued grazing land, the per acre value of $274 was lowest among all regions.

Values per farm averaged $307,800 in the Corn Belt, with State averages ranging from nearly $199,000 per farm in Missouri to just over $469,000 in Illinois. Farm size averaged 273 acres in the Corn Belt.

Appalachia's $181,200 per farm was lowest among all regions because of the small (155 acres) average size of operations. Per acre values averaged $1,171, fourth highest among all regions.

Northern Plains and Southeast Regions Lead Increases

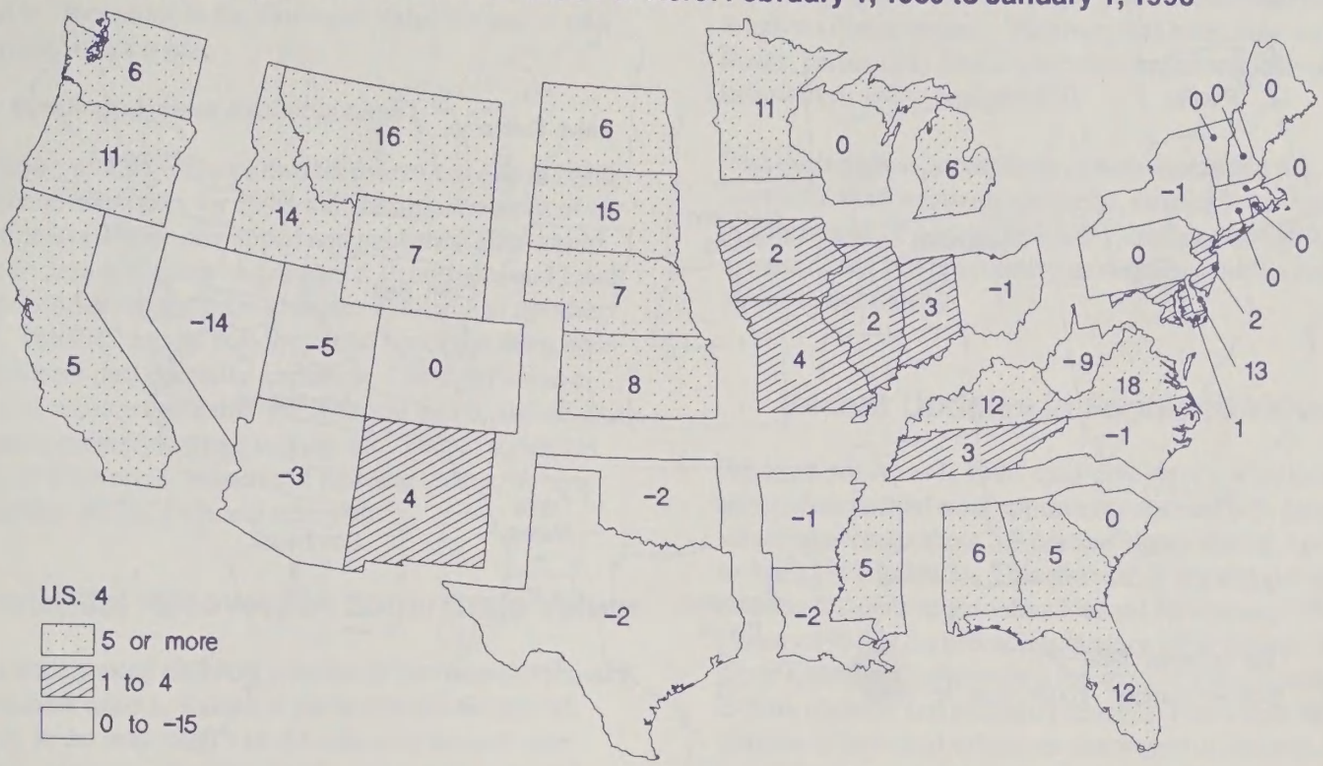
The Northern Plains' 8-percent gain in average farmland values during 1989, following increases averaging 10 percent in the 2 preceding years, raised the region's recovery in farmland values to 31 percent above the 1987 low. This recovery has been the strongest of all farm production regions. However, current values remain nearly 20 percent below the 1982 high.

Favorable wheat and record cattle prices helped boost farmland values in the Northern Plains in 1989. Cash receipts from marketings of livestock and products were up in all States in 1989. Cash receipts from crops were lower, except in Nebraska, possibly because of replenishing crop inventories drawn down following the 1988 drought. Nebraska producers were least affected by the region's drought. Also large enrollments in the Conservation Reserve Program (CRP)—nearly 28 percent of all CRP acres—helped support higher farmland values. State increases in farmland values during 1989 ranged from 6 percent in North Dakota to 15 percent in South Dakota.

Southeast values also averaged 8 percent higher in 1989, bringing the regional average to record high. Georgia and Florida values were also record high; Alabama and South

Figure 2

Percent Change in U.S. Famland Value Per Acre: February 1, 1989 to January 1, 1990



Carolina values were only 3 percent below record levels. Favorable commodity and cattle prices and demand for land for nonagricultural uses contributed to higher 1989 farmland values. State value changes ranged from no change in South Carolina to a 12-percent gain in Florida. Both cropland and pasture values were substantially higher in Florida.

Demand for land in Appalachia is also varied, a factor which helped raise the region's 1989 average value 7 percent to a record high. State changes varied considerably, ranging from a 9-percent drop in West Virginia to an 18-percent increase in Virginia. Strong increases in northern Virginia, particularly near urban areas, contributed to the State's gain. The drop in West Virginia value was partly attributable to lower values for woodlands, which account for nearly 40 percent of the State's land in farms.

Kentucky's 12-percent gain was partly due to higher cropland values in the western area of the State and higher woodland values in north and eastern portions—particularly near urban areas. Kentucky's increase in values in the preceding 2 years averaged only 2 to 3 percent, a modest increase compared with other States. Investors may have bid up Kentucky prices in 1989 to values more in line with recent value increases in nearby States.

Higher cattle and milk prices contributed to the Lake States' 6-percent increase in farmland values during 1989. With an average 8-percent increase over the past 3 years, regional values have recovered about 25 percent from the 1987 low, but still remain nearly 29 percent below 1981's high. Cash receipts from marketings were higher in all States in 1989, particularly receipts from livestock and products.

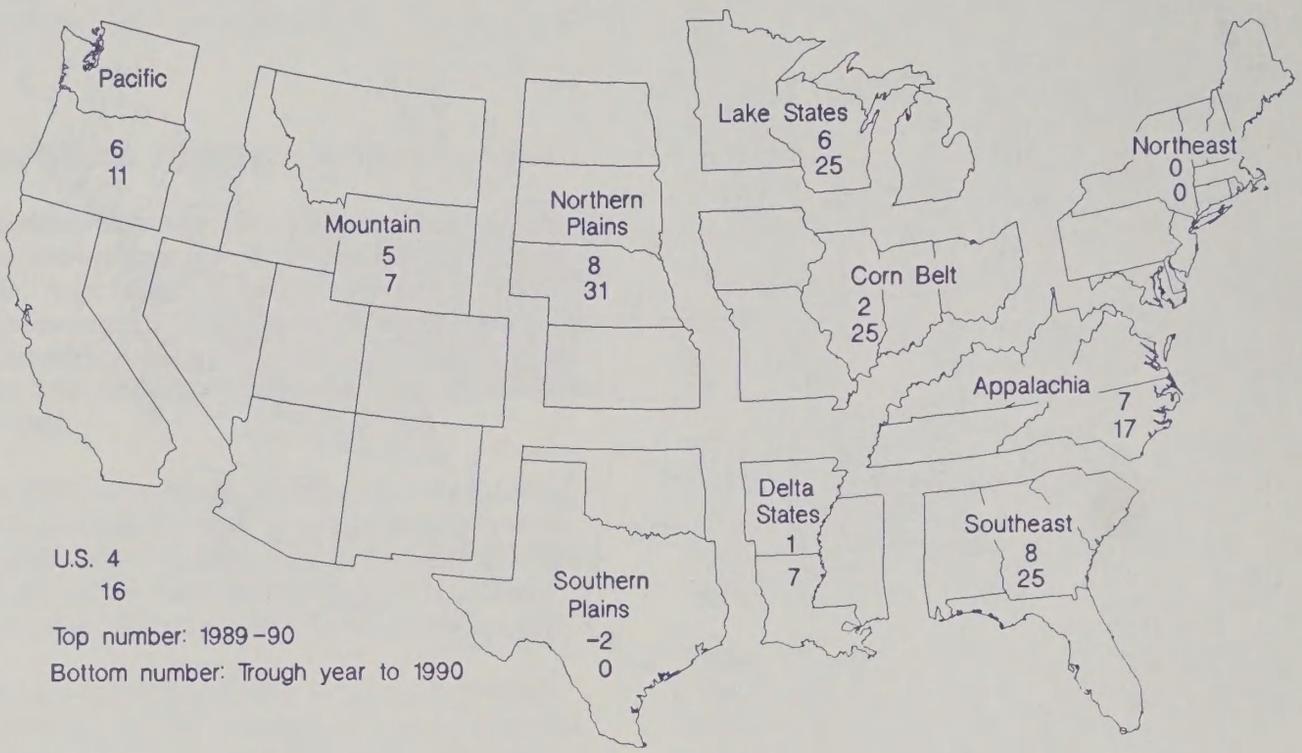
Minnesota's 11-percent gain in 1989, and 14-percent average increase over the past 3 years, may reflect a market adjustment to the State's large drop in values during 1981-87 (54 percent)— compared with lesser declines in Wisconsin (33 percent) and Michigan (28 percent). Minnesota's cropland values were substantially higher in 1989, particularly in southern portions of the State. Additional enrollments in the CRP have brought the State's share of all enrollments to 5.5 percent.

Most Corn Belt States showed only moderate increases in farmland values in 1989, compared with strong gains in 1987 and 1988. Value changes during 1989 ranged from a 1-percent decline in Ohio to a 4-percent gain in Missouri. Overall, the region's average rose only 2 percent in 1989, substantially below the 10- and 11-percent gains in the 2 preceding years.

Cropland dominates farmland uses, and 1989 cropland values were unchanged to only moderately higher in Corn Belt States. Lower corn and soybean prices may have been a factor in holding down cropland values. Market perfor-

Figure 3

Percent Change in U.S. Farmland Value Per Acre, 1989-90 and Trough Year to 1990



mance in 1989 suggests the strong recovery in farmland values during the past 2 years may be leveling off.

Lower soybean prices also likely contributed to the modest 1-percent gain in Delta States' farmland values in 1989. Increases in the 2 preceding years averaged about 3 percent annually. State value changes in 1989 ranged from a 2-percent decline in Louisiana to a 5-percent increase in Mississippi. Cropland and pasture values averaged lower in Louisiana. Cropland values were particularly higher in northern Mississippi, and woodland values were generally higher throughout the State.

Lower pasture values pushed 1990 farmland values down 2 percent in Oklahoma and Texas. The Southern Plains is the only region where farmland values have not rebounded since values reached record high levels in 1985. Current regional values remain about 25 percent below their 1985 high. The region's economy continues to adjust to the 1986 drop in energy prices which, in turn, seems to have reduced the demand for land for nonagricultural uses.

Values in the Mountain region averaged 5 percent higher in 1989, led by strong increases in Montana (16 percent), Idaho (14 percent), and Wyoming (7 percent). All three States have a large proportion of farmland in pasture, and pasture values were substantially higher in 1989. Conversely, the Nevada average farmland value was off 14 percent, pulled down by lower pasture values there.

Wheat and cattle production are important throughout most of the region and favorable prices helped producers. Additional CRP enrollments have brought the region's share of CRP acreage to 19 percent. CRP acreage is concentrated in Montana (2.7 million), Colorado (2.0 million), and Idaho (0.8 million).

The Pacific region's value averaged 6 percent higher, close to the 5-percent gain a year earlier. Oregon showed a strong increase (11 percent) with substantially higher pasture values, but also higher values for other uses. Washington and California farmland values averaged 5 to 6 percent higher, similar to 1988 gains.

Farmland values in the Northeast have steadily increased since the early 1940's as population growth and higher incomes stimulated demand for land for nonagricultural uses. However, a slowing in the growth of the Northeast's economy seems to have dampened recent gains there. While the regional average showed no change in 1989, as did a majority of the States, changes in State values ranged from a 1-percent decline in New York to a 13-percent gain in Delaware.

Farmland Values Revised

Because ERS farmland value estimates are based on values in the most recent Census of Agriculture, ERS estimates for 1984-89 have been revised following publication of the 1987

Census. Reasons for revision and the methods used, are discussed in "Revisions in the Farmland Value Series," a special article in this report.

Farm Buildings Values Available Later

This report usually includes current estimates of farm building values. Estimates for 1990 and possible revisions of earlier estimates will be developed and published after results of the Bureau of Census' Agricultural Economics and Land Ownership Survey (AELOS) become available in summer 1990. The ERS annual building value series has been interpolated from past decennial censuses. The 1980's was a period of relative instability for farm real estate, and several indicators strongly suggest that the ERS annual series has diverged from other measures of building values. A new ERS series will be instituted next year.

Substantial Recovery in Some State Values

States experienced different patterns of decline and recovery in farmland values. Values in the Northeast did not fall sharply in the mid-1980's as did values in several other regions. Values in the New England States have steadily risen over several decades, so peaks and troughs have not occurred. Because current values are record high, peak-to-trough and trough-to-current value changes are zero (table 2).

Even though Maryland's 25-percent recovery from its 1987 low value exceeds the 21-percent drop in value during 1981-87, the current value ($2,512) is not record high ($2,530). This results because the value of the denominator used to calculate the percent recovery is relatively small, compared with the peak value, and, therefore, can show a relatively strong percent increase. Looking at the dollar changes, Maryland's recovery ($503) falls short of the loss in value ($521) even though the percent changes would indicate otherwise.

These relationships between dollar changes and percent changes also occur in other States. For example, the 1987-90 dollar recovery is nearly identical for Ohio and Nebraska at around $160. Yet, Nebraska's 41-percent increase far outstrips Ohio's 15-percent gain, because Nebraska's 1987 value was only $400 per acre compared with Ohio's $1,097.

States showing the strongest percentage recovery are generally those which experienced the largest percentage drops in peak-to-trough values. These States are concentrated in the Corn Belt, Northern Plains, and Lake States regions. But, when dollar changes from trough-to-current values are compared with dollar changes from peak-to-trough, Corn Belt States have only recovered from 22 percent (Ohio) to 28 percent (Iowa) of values earlier lost. These percentages are higher in the Northern Plains, ranging from 30 percent for North Dakota to 89 percent for South Dakota.

Farmland values also fell sharply in the Delta States and Southern Plains regions. Recovery has been slow for all States, particularly Texas which has experienced lower values from 1985 through 1990.

Peak-to-trough value declines in Appalachia and the Southeast were relatively moderate, ranging from 2 percent in Virginia to 19 percent in South Carolina. By 1990, values in most States had approached or surpassed earlier record values in the 1980's.

Recent Updates in Farmland Values

Based on the April 1, 1990, quarterly survey, a national panel of accredited rural appraisers expected U.S. farmland values to average about 3.9 percent higher during April 1990 to April 1991 (table 3). This increase is slightly stronger than the 3.1-percent gain they forecast for January 1990 to January 1991 in the preceding January 1990 survey. Because appraisers' information for specific areas is weighted to form regional and national estimates, their expectations of changes in farmland values are developed differently from the ERS forecast in the Outlook section of this report.

Overall, nearly 70 percent of the appraisers in the April survey anticipated higher values over the next 12 months, while 29 percent indicated stable values and only 2 percent specified lower values. The 3.9-percent expected increase over the next 12 months falls short of the 5-percent gain appraisers reported for the preceding year.

Regional gains expected during April 1990-91 ranged from 2.5 percent in the South to 4.7 percent in the Northeast. These gains were lower than those reported for April 1989-90, except in the South where year-ahead values (2.5 percent) were slightly above the 2.2-percent gain during April 1989-90. The North Central's expected 4.6-percent increase fell substantially below the 7.3-percent gain a year ago. Just 65 percent of North Central appraisers expected higher values in the upcoming 12 months, compared with nearly 90 percent who indicated higher values during the past year.

Looking at short-term increases, appraisers expected a 0.8-percent increase in U.S. average farmland values during April through June 1990, down slightly from the 1.2-percent rise reported for the preceding 3 months (table 4). Changes for these 3-month periods are similar to those reported in the preceding January survey.

The strongest gain over the next 3 months is expected in the North Central region where appraisers look for a 1.1 percent increase in farmland values. About 38 percent of the appraisers there expect higher values, while 62 percent expect stable values. This 1.1-percent expected gain fell short of the 1.6-percent increase reported for the past 3 months.

Table 2.--Average value per acre of farm real estate: Peak, trough and current

State	Peak		Trough		1990 Value	Dollar change		Percent change	
	Year	Value	Year	Value		Peak to trough	Trough to 1990	Peak to trough	Trough to 1990
Northeast:									
Maine	1990	1,029	NA		1029	0	0	0	0
New Hampshire	1990	2,260	NA		2260	0	0	0	0
Vermont	1990	1,203	NA		1203	0	0	0	0
Massachusetts	1990	3,802	NA		3802	0	0	0	0
Rhode Island	1990	5,080	NA		5080	0	0	0	0
Connecticut	1990	4,463	NA		4463	0	0	0	0
New York	1989	1,053	1990	1,042	1042	-11	0	-1	0
New Jersey	1982	3,181	1985	2,951	4737	-230	1,786	-7	61
Pennsylvania	1984	1,596	1986	1,332	1911	-264	579	-17	43
Delaware	1981	1,928	1985	1,596	2334	-332	738	-17	46
Maryland	1981	2,530	1987	2,009	2512	-521	503	-21	25
Lake States:									
Michigan	1981	1,289	1987	924	1060	-365	136	-28	15
Wisconsin	1981	1,152	1987	777	867	-375	90	-33	12
Minnesota	1981	1,281	1987	587	831	-694	244	-54	42
Corn Belt:									
Ohio	1981	1,831	1987	1,097	1258	-734	161	-40	15
Indiana	1981	2,031	1987	1,061	1288	-970	227	-48	21
Illinois	1981	2,188	1987	1,149	1416	-1039	267	-47	23
Iowa	1981	1,999	1987	786	1130	-1213	344	-61	44
Missouri	1981	990	1987	604	706	-386	102	-39	17
Northern Plains:									
North Dakota	1982	455	1987	303	348	-152	45	-33	15
South Dakota	1982	349	1987	238	337	-111	99	-32	42
Nebraska	1982	730	1987	400	562	-330	162	-45	41
Kansas	1982	628	1987	373	473	-255	100	-41	27
Appalachia:									
Virginia	1986	1,179	1987	1,154	1597	-25	443	-2	38
West Virginia	1982	723	1985	607	652	-116	45	-16	7
North Carolina	1984	1,429	1986	1,254	1325	-175	71	-12	6
Kentucky	1982	1,058	1987	878	1034	-180	156	-17	18
Tennessee	1981	1,070	1986	935	1052	-135	117	-13	12
Southeast:									
South Carolina	1982	980	1987	792	949	-188	157	-19	20
Georgia	1981	971	1986	853	1053	-118	200	-12	23
Florida	1984	1,645	1986	1,537	2125	-108	588	-7	38
Alabama	1981	910	1987	786	882	-124	96	-14	12
Delta States:									
Mississippi	1981	1,034	1987	685	754	-349	69	-34	10
Arkansas	1982	1,096	1987	724	776	-372	52	-34	7
Louisiana	1981	1,454	1987	921	940	-533	19	-37	2
Southern Plains:									
Oklahoma	1982	725	1987	475	513	-250	38	-34	8
Texas	1985	694	1990	506	506	-188	0	-27	0
Mountain:									
Montana	1984	276	1987	200	243	-76	43	-28	21
Idaho	1982	839	1987	552	685	-287	133	-34	24
Wyoming	1984	199	1989	143	153	-56	10	-28	7
Colorado	1984	469	1986	360	369	-109	9	-23	3
New Mexico	1982	195	1987	156	200	-39	44	-20	28
Arizona	1984	311	1990	268	268	-43	0	-14	0
Utah	1982	589	1990	404	404	-185	0	-31	0
Nevada	1982	268	1990	201	201	-67	0	-25	0
Pacific:									
Washington	1984	972	1988	739	815	-233	76	-24	10
Oregon	1984	719	1987	541	602	-178	61	-25	11
California	1984	1,981	1987	1,554	1753	-427	199	-22	13
48 States	1982	823	1987	599	693	-224	94	-27	16

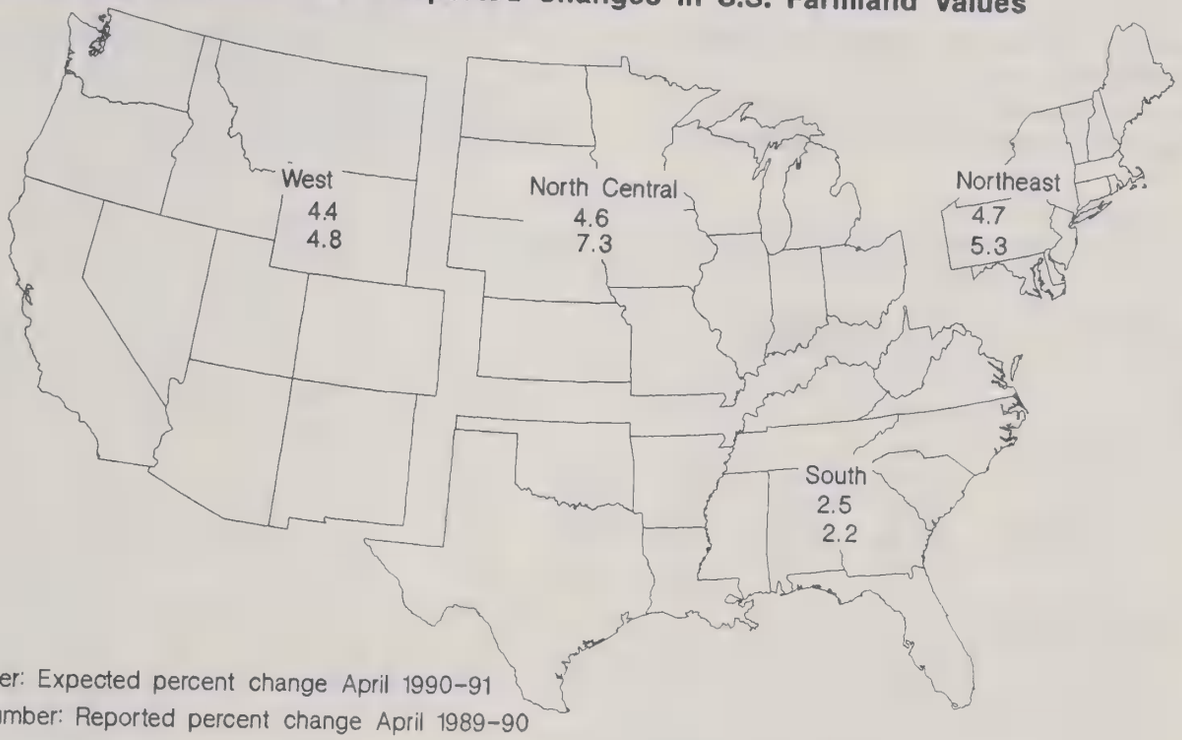
Table 3.--Moderate increase in U.S. average farmland values expected over the next 12 months 1/

	Percent expecting values during April 1990 to April 1991 to be:				Percent reporting values during April 1989 to April 1990 were:			
	Higher	Same	Lower	Change in Value	Higher	Same	Lower	Change in Value
	Percent							
Northeast	100	0	0	4.7	98	2	0	5.3
North Central	65	32	3	4.6	89	11	0	7.3
South	68	30	2	2.5	52	43	5	2.2
West	73	27	0	4.4	81	11	8	4.8
United States	69	29	2	3.9	76	20	4	5.0

1/ Based on 477 responses from the April 1990 survey of accredited rural appraisers.

Figure 4

Rural Appraisers' Expected and Reported Changes in U.S. Farmland Values



Top number: Expected percent change April 1990-91
Bottom number: Reported percent change April 1989-90

Table 4.--Slowdown in short-term increases in average farmland values 1/

	Percent expecting values during April through June 1990 to be:				Percent reporting values during January through March 1990 were:			
	Higher	Same	Lower	Change in Value	Higher	Same	Lower	Change in Value
	Percent							
Northeast	61	39	0	0.8	88	12	0	1.7
North Central	38	62	0	1.1	54	44	2	1.6
South	21	79	0	0.5	31	69	0	0.7
West	40	60	0	0.8	37	60	3	1.0
United States	34	66	0	0.8	42	56	2	1.2

1/ Based on 477 responses from the April 1990 survey of accredited rural appraisers.

Northeast appraisers expect a 0.8-percent gain over the next 3 months, about half the 1.7-percent increase reported for the past quarter. Values in the South and West are expected to average 0.5 and 0.8 percent higher, only slightly below reported increases during the preceding 3 months.

Cash Rents in 1990

Nearly 41 percent of all U.S. farmland operated in 1989 was rented, according to USDA's 1989 Farm Costs and Returns Survey. (This count excludes land leased on an animal-unit-month basis). Leasing was most widespread in the Corn Belt, Northern Plains, Southern Plains, and Delta States where 50 to 55 percent of all land operated was leased. In other regions, the proportion of leasing ranged from 28 percent in the Southeast to 35 percent in the Mountain region.

Tenants leased on a cash basis most often. In 1989, about 66 percent of all rented land was rented for cash, 30 percent for shares, and 4 percent rent-free. Over 75 percent of the leased land was cash-rented in the Northeast, Lake States, Southern Plains, Southeast, Mountain, and Pacific regions. Tenants cash-rented least often in the Corn Belt (38 percent) and the Delta States (42 percent) where share-renting was used more frequently.

Cash rents are indicators of farmland's gross returns, and farmland values reflect expected future rents. The timing of changes in rents and farmland values usually differs. Rents may vary from year to year as market and growing conditions change. Farmland values incorporate a longer time span of past and expected returns (rents) to land. Consequently, annual changes in rent-to-value ratios may be more volatile than changes in farmland values.

Cropland enrolled in the Conservation Reserve Program (CRP) is removed from production for 10 years. Because some enrolled land had been rented prior to CRP, fewer acres may be available to rent. Also, some producers placing land in the CRP and enrolling base acres in annual commodity programs may seek additional land. This higher demand for cropland, together with less land in the rental market, would push cash rents higher.

Table 5.--Farms rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90 1/

State	Rent per acre					Rent to value				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
	Dollars					Percent				
Northeast:										
Maine	22.20	30.20	30.40	38.00	36.30	4.4	5.6	5.2	3.2	3.8
Vermont	*	*	30.10	28.30	31.30	*	*	2.7	3.3	2.6
New York	26.60	28.80	29.40	34.60	25.90	5.2	4.1	4.1	3.2	4.0
New Jersey	44.60	58.20	51.70	60.80	▪	1.1	0.8	0.5	0.3	*
Pennsylvania	34.80	39.30	43.80	44.10	44.10	2.4	2.5	2.5	2.1	2.3
Delaware	64.00	59.50	55.20	52.30	60.60	3.6	3.1	2.9	2.1	4.2
Maryland	52.50	49.00	58.50	53.60	54.00	3.2	2.5	2.1	2.3	3.3
Lake States:										
Michigan	43.90	41.50	39.20	42.50	43.80	5.5	6.1	5.6	6.0	5.9
Wisconsin	43.70	42.40	50.30	51.10	56.90	6.7	6.8	7.8	7.8	8.0
Minnesota	52.80	48.20	52.10	54.10	61.80	9.0	9.1	8.5	8.4	7.8
Corn Belt:										
Ohio	65.90	58.40	62.00	66.70	68.40	6.5	6.0	6.1	6.0	5.9
Indiana	83.10	74.30	73.90	78.00	83.10	7.7	7.4	7.2	7.0	6.8
Illinois	100.10	86.10	83.20	87.10	98.20	7.8	7.6	6.8	6.3	6.7
Iowa	83.00	75.70	82.10	91.40	96.00	9.0	9.3	8.4	8.3	7.9
Missouri	42.10	38.60	44.70	47.00	50.30	8.2	7.4	8.3	8.2	9.0
Northern Plains:										
North Dakota	26.90	23.40	25.40	24.20	24.30	8.1	7.7	8.1	8.1	8.8
South Dakota	20.90	18.40	18.90	20.90	*	8.4	10.2	8.8	7.8	*
Appalachia:										
Virginia	30.20	30.50	28.70	29.20	30.10	3.1	2.6	2.7	1.8	2.4
West Virginia	19.30	21.30	21.40	19.90	22.50	4.0	4.0	3.5	2.9	4.0
North Carolina	35.60	29.60	28.40	34.10	31.00	3.4	2.6	2.4	2.5	2.6
Kentucky	46.00	43.20	42.90	41.10	38.00	5.5	6.2	4.9	5.0	5.3
Tennessee	41.20	34.90	34.70	39.10	37.40	5.4	4.2	3.8	4.3	7.1
Southeast:										
South Carolina	22.10	19.80	21.50	24.80	21.10	2.8	2.8	2.6	3.1	3.2
Georgia	25.40	25.00	26.80	28.40	23.80	3.9	3.2	3.5	3.3	3.5
Alabama	24.60	23.80	29.30	25.70	28.40	3.7	3.8	4.9	4.0	4.8
Delta States:										
Mississippi	28.50	24.70	30.40	31.80	26.20	4.5	4.2	5.6	5.7	4.8
Arkansas	39.70	34.30	35.80	39.80	42.10	5.8	5.8	6.0	5.9	6.8
Louisiana	37.90	33.40	36.00	44.10	32.00	2.4	3.2	3.7	4.9	4.3

▪ = Insufficient information.
1/ Current dollars. Estimated cash rent as a percent of per acre value of rented farmland.

CRP enrollments amounting to 5.4 million acres in fiscal year 1989 and 4.1 million acres in fiscal year 1990 bring total U.S. enrollments to just over 33.9 million acres. The Northern Plains accounts for 9.4 million (28 percent) of all CRP acres, with State enrollments there ranging from 1.3 million in Nebraska to just over 3.1 million in North Dakota. Enrollments are also high in the Mountain region (6.4 million). The Southern Plains reports 5.1 million acres, mostly in Texas. Corn Belt enrollments rose to 4.7 million acres, with highest counts in Iowa (2.0 million) and Missouri (1.5 million).

Farm Rents Rise in the Lake States and Corn Belt

Cash rent data for entire farms are generally limited to States east of the Plains regions. Cash-renting whole farms is less common in other States.

Rents in the Lake States and Corn Belt were higher in 1990 (table 5), particularly in Minnesota ($61.80) and Illinois ($98.20). Both regions showed strong increases in farmland values in 1989, including Minnesota's 7-percent gain and Illinois' 10-percent increase. Rents have moved upward since 1987 when farmland values reached low points after falling from high levels in the early 1980's. Rent-to-value percentages were close to 1989 levels for States in both regions.

Rents for most States tended to be stable or lower in the Appalachia, Southeast, and Delta States regions. Exceptions included higher rents in Virginia, West Virginia, Alabama, and Arkansas.

Cropland Rents Mostly Higher in Corn Belt and Northern Plains

Lower prices for corn and soybeans in 1989 carried over into 1990 and apparently put downward pressures on some cash rents for cropland. Although rents are generally higher in the Corn Belt States, the 1989-90 increases were more moderate than those reported for a year earlier (table 6).

Rents for nearly all States were lower in the Appalachia, Southeast, and Delta States regions. Soybeans are a major cash crop in these areas. Rents were mixed in the Mountain States, generally with higher rents for irrigated cropland and lower rents for nonirrigated land.

Pasture Rents Generally Up

Record cattle prices helped support pasture rents in many States. Pasture rents were higher in the Lake States, Corn Belt, and Northern Plains regions (table 7). Rents were generally higher in the Southern Plains, Mountain, and Pacific regions, each having large tracts of grazing land.

Cattle grazing fees for privately owned nonirrigated land leased on an animal-unit-month basis were generally higher in 1989 (table 8). Fees were substantially higher in Nebraska ($13.13) and Oklahoma ($9.94). The 16-State average was $10.06, up from $8.98 a year earlier.

Farmland Transfers

ERS' annual Farmland Market Survey provides data on acreage, value, and terms of recent farm and ranch sales. Respondents also specify types of buyers and sellers, tenure before and after sale, sources of financing, and the probable use of the land 5 years after its sale.

In the latest survey, participants reported details on up to 5 of the most recent voluntary and estate sales completed in their county(s) between September 1 and December 31, 1989. Information was provided on nearly 6,600 sales involving just over 2 million acres. Each sale comprised at least 10 acres used primarily for agriculture. Respondents included real estate brokers and appraisers, commercial bankers, officials of the Farmers Home Administration and the Farm Credit System, and farmers and ranchers.

In addition to detailed information on sales, respondents estimated the percentage shares of 4 categories of transfers within their county(s) during all of 1989. Nationwide, voluntary and estate sales accounted for 70 percent of the transfers (66 percent in 1989) and family transfers for 16 percent, about the same as in 1989. Another 11 percent represented foreclosure, bankruptcy, and condemnation sales and transfers (15 percent in 1989), while 3 percent fell into the "other sales and transfers" category, the same level as in 1989.

Price and Acres Per Sale Average Higher

Reported sales averaged 306 acres per sale and $654 per acre, both moderately above year earlier levels (table 9). Regional year-to-year changes show more variation. Acres per sale were substantially higher in Appalachia in 1990, partly because of several sales of large tracts of woodland in West Virginia. Compared with a year earlier, acres per sale were lower in the Delta States and higher in the Southern Plains, but levels were comparable to those 2 years ago. Average price was substantially higher in the Pacific region, partly due to a high proportion of the farmland sold being high-valued irrigated cropland.

Size of tracts sold averaged highest in the Plains and western regions where grazing land was the principal use (table 10). Percentages of grazing land ranged from 48 percent in the Pacific region to just over 70 percent in the Southern Plains and Mountain regions. Because grazing land tends to be comparatively low valued, per acre prices of farmland sold in these areas were lowest among all regions, except in the Pacific region where high-valued irrigated cropland accounted for about 40 percent of the acres sold and 84 percent of the value of all sales in the region.

Table 6.--Cropland rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90 1/

State	Rent per acre					Rent to value				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
	Dollars					Percent				
Northeast:										
Maine	27.00	31.80	36.90	36.40	35.70	5.4	4.1	5.4	3.2	5.2
Vermont	26.00	31.30	45.20	38.20	25.60	3.0	3.2	3.2	3.7	2.9
New York	30.00	32.00	31.30	37.80	30.20	5.1	4.2	3.7	3.8	4.7
New Jersey	46.00	48.00	61.10	67.40	*	0.9	0.5	0.6	0.3	*
Pennsylvania	37.20	40.00	42.70	46.50	43.30	2.7	2.5	2.4	1.9	2.3
Delaware	64.50	61.40	51.70	57.10	55.80	3.7	3.0	2.9	2.7	3.8
Maryland	54.50	50.80	50.50	55.10	49.30	3.3	2.7	2.0	1.8	3.7
Lake States:										
Michigan	47.70	41.90	41.70	44.20	41.40	5.8	5.9	5.9	5.9	5.7
Wisconsin	48.80	44.80	45.40	50.90	50.00	7.0	7.3	7.3	7.7	7.2
Minnesota	53.80	47.80	52.70	59.80	61.50	8.7	9.0	8.5	8.4	7.6
Corn Belt:										
Ohio	70.30	63.20	65.60	70.80	69.10	6.5	5.6	6.3	6.4	6.0
Indiana	85.60	77.00	77.00	83.10	86.60	7.5	7.5	7.2	7.2	6.9
Illinois	99.90	85.70	89.20	94.30	99.40	7.7	7.6	7.1	6.5	6.7
Iowa	87.60	80.30	86.30	95.80	99.60	9.3	9.8	8.6	8.2	8.0
Missouri	54.40	48.30	54.70	59.80	61.90	9.0	9.1	9.1	8.9	9.9
Northern Plains:										
North Dakota	29.70	28.20	28.80	29.40	25.20	8.1	8.4	8.1	8.4	8.9
South Dakota	26.40	25.50	27.10	27.30	36.20	9.2	10.0	9.5	8.8	8.4
Nebraska--										
(Nonirrigated)	46.70	42.30	48.50	51.30	59.40	10.4	10.3	10.2	8.4	8.8
(Irrigated)	86.30	81.20	85.50	100.10	101.60	10.6	11.6	10.5	9.8	9.3
Kansas--										
(Nonirrigated)	30.30	28.60	30.60	30.20	33.10	8.0	7.8	8.3	7.6	8.0
(Irrigated)	58.40	59.70	54.10	62.50	61.50	9.8	10.4	9.8	10.3	9.1
Appalachia:										
Virginia	*	37.70	36.20	37.40	37.70	*	3.2	2.9	2.2	2.7
West Virginia	25.60	31.70	29.70	35.70	29.70	4.3	4.2	4.6	3.8	4.9
North Carolina	39.50	33.70	34.00	38.70	32.90	3.5	2.8	2.6	2.8	2.7
Kentucky	53.60	53.30	52.70	62.10	47.50	6.0	6.8	6.1	6.5	6.3
Tennessee	47.40	39.90	46.60	46.80	46.00	5.8	4.8	5.3	5.9	7.1
Southeast:										
South Carolina	25.50	22.40	23.00	26.00	23.20	2.9	3.2	2.9	3.1	3.6
Georgia	27.80	26.20	30.70	32.80	27.30	3.2	3.9	4.2	4.0	3.9
Florida	94.60	99.20	106.90	114.10	*	2.6	3.1	3.0	3.1	*
Alabama	29.70	28.50	30.40	29.70	33.90	4.3	4.4	4.8	4.1	5.5
Delta States:										
Mississippi	35.00	31.20	36.30	40.60	33.80	5.1	5.0	5.8	6.3	5.6
Arkansas	48.20	44.40	50.40	52.00	49.80	6.5	6.5	7.2	6.4	6.7
Louisiana	45.10	36.50	44.60	55.00	46.30	2.7	3.6	4.8	6.0	6.1
Southern Plains:										
Oklahoma--										
(Nonirrigated)	26.50	23.00	24.30	25.80	27.20	4.7	4.8	5.3	5.1	5.5
(Irrigated)	*	37.20	33.70	36.10	42.50	*	8.3	6.8	6.8	6.1
Texas--										
(Nonirrigated)	20.20	19.90	20.50	22.60	20.10	2.2	2.3	2.5	3.1	2.9
(Irrigated)	39.60	40.60	41.10	49.50	43.10	5.1	5.4	4.8	6.1	4.8
Mountain:										
Montana--										
(Nonirrigated)	22.20	21.70	20.30	23.90	21.80	8.4	10.1	7.8	8.4	8.3
(Irrigated)	55.90	41.70	42.00	54.40	60.20	6.6	6.1	5.6	8.5	8.3
Idaho--										
(Nonirrigated)	32.40	34.10	30.80	38.70	36.90	6.0	7.6	6.7	7.0	6.4
(Irrigated)	85.40	77.80	91.20	96.00	94.80	7.7	7.9	8.5	8.1	9.3
Wyoming--										
(Nonirrigated)	13.80	11.20	12.00	14.30	*	6.9	7.8	7.8	8.5	*
(Irrigated)	47.50	42.50	42.50	45.30	37.90	7.2	7.0	8.7	8.7	8.0
Colorado										
(Nonirrigated)	22.80	21.10	24.30	28.90	20.50	6.0	5.5	4.7	6.3	6.9
(Irrigated)	63.40	59.10	63.80	68.70	70.90	6.0	6.6	6.7	7.5	8.6
New Mexico--										
(Irrigated)	79.80	69.80	74.40	70.50	62.00	3.0	2.7	2.3	3.9	4.1
Arizona--										
(Irrigated)	134.30	124.10	146.40	153.40	*	1.1	1.3	1.4	1.5	*
Utah--										
(Nonirrigated)	25.40	23.50	25.80	27.30	24.00	2.3	3.3	3.3	3.8	5.6
(Irrigated)	63.70	54.60	54.30	56.00	59.00	2.4	2.9	2.8	3.3	4.3
Nevada--										
(Irrigated)	62.80	80.00	77.40	79.30	72.10	4.6	4.9	5.0	7.0	4.5
Pacific:										
Washington--										
(Nonirrigated)	42.40	42.60	42.30	50.90	56.00	4.5	5.4	5.7	6.8	7.5
(Irrigated)	118.30	96.60	89.70	92.50	125.60	7.4	7.3	5.1	6.5	9.8
Oregon--										
(Nonirrigated)	50.70	49.70	42.20	55.70	50.00	6.6	5.7	4.4	7.2	5.4
(Irrigated)	96.00	88.10	81.50	84.00	88.50	7.6	6.2	5.8	7.9	5.6
California--										
(Irrigated)	152.50	160.20	166.80	184.20	155.00	4.0	3.3	3.9	5.0	5.3

* = Insufficient information.
1/ Current dollars. Estimated cash rent as a percent of per acre value of rented cropland.

Table 7.--Pasture rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90 1/

State	Rent per acre					Rent to value				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
	Dollars					Percent				
Northeast:										
Maine	*	16.30	21.40	17.60	16.30	*	2.2	4.3	1.3	2.8
Vermont	*	14.40	19.00	17.20	15.20	*	2.7	2.0	2.2	1.8
New York	17.90	14.40	16.50	16.00	16.10	5.7	3.5	3.7	3.4	4.3
New Jersey	18.00	18.60	19.90	22.90	*	2.2	1.9	1.9	2.0	*
Pennsylvania	18.00	18.60	19.90	22.90	23.50	2.2	1.9	1.9	2.0	2.1
Delaware	35.90	43.20	34.40	34.00	34.40	2.6	3.4	3.3	2.7	3.8
Maryland	24.30	32.10	31.90	30.80	30.80	2.0	1.8	2.0	1.6	2.6
Lake States:										
Michigan	17.80	17.50	15.90	20.00	20.50	4.2	4.1	3.5	4.7	4.4
Wisconsin	22.00	20.20	21.40	23.30	25.00	6.7	7.2	7.2	6.7	6.8
Minnesota	16.00	14.50	18.10	17.80	20.70	6.4	7.0	7.2	6.6	7.4
Corn Belt:										
Ohio	24.90	25.10	28.40	27.60	28.80	4.9	5.3	4.7	4.5	5.0
Indiana	35.60	35.70	31.30	33.90	35.30	5.8	6.4	5.8	5.6	5.9
Illinois	31.90	27.70	28.60	32.80	33.20	6.2	6.1	6.3	6.0	6.1
Iowa	29.20	28.10	28.80	30.00	32.60	7.7	8.5	8.6	7.7	7.2
Missouri	22.00	19.40	22.70	22.80	24.10	6.2	5.4	6.0	6.2	6.8
Northern Plains:										
North Dakota	7.80	7.80	8.50	8.40	8.50	5.8	6.7	6.6	6.8	6.9
South Dakota	7.30	6.30	6.40	7.10	*	7.5	8.7	8.3	7.9	*
Nebraska	8.90	9.80	11.40	12.30	*	7.6	9.4	10.9	7.7	*
Kansas	13.20	10.80	11.80	10.80	11.50	5.9	5.5	5.5	5.2	5.2
Appalachia:										
Virginia	20.00	22.80	20.40	21.00	22.40	2.7	2.8	2.4	1.6	2.1
West Virginia	15.90	14.80	14.00	14.50	11.50	4.0	3.0	3.2	3.1	2.7
North Carolina	20.60	19.20	20.70	22.50	20.00	1.9	1.7	1.9	1.8	2.5
Kentucky	24.80	24.30	27.50	25.50	24.90	4.2	4.4	4.7	4.0	4.8
Tennessee	23.60	21.60	22.70	26.40	26.90	4.2	3.0	3.3	3.3	5.7
Southeast:										
South Carolina	16.10	15.60	17.60	18.40	17.90	2.4	2.3	2.2	2.2	3.4
Georgia	19.40	19.20	20.80	21.00	19.50	3.2	2.9	2.9	2.4	3.1
Florida	20.60	32.30	25.20	27.10	20.20	1.2	1.5	0.9	1.2	0.8
Alabama	17.10	17.10	18.60	18.00	20.60	3.3	3.5	3.8	3.7	3.9
Delta States:										
Mississippi	14.00	12.80	14.70	15.90	14.70	2.7	2.4	3.4	3.4	3.6
Arkansas	17.60	14.10	16.00	19.90	16.90	3.4	3.1	3.7	3.7	3.7
Louisiana	18.40	17.20	14.70	16.10	18.30	1.2	2.0	1.8	2.1	3.4
Southern Plains:										
Oklahoma	12.90	10.20	10.40	9.50	9.70	3.4	3.0	3.3	2.8	3.2
Texas	7.80	7.70	7.80	7.30	9.20	1.0	1.0	1.2	1.4	1.6
Mountain:										
Montana	4.80	5.20	4.20	5.00	6.00	4.1	5.0	3.3	6.3	6.8
Idaho	13.80	16.20	16.10	20.60	16.40	4.3	4.5	6.3	7.3	5.6
Wyoming	5.80	5.20	4.50	5.50	*	5.8	5.2	5.9	5.2	*
Colorado	9.90	8.30	9.30	7.30	8.20	5.3	3.5	3.1	2.3	5.0
Utah	23.20	18.30	17.10	19.00	20.20	1.9	2.5	2.3	3.2	4.6
Pacific										
Washington	30.80	23.60	32.40	29.10	30.00	6.0	3.3	4.9	6.8	8.5
Oregon	21.20	16.10	14.50	14.40	*	7.7	4.7	4.8	6.5	*
California	*	30.30	33.80	37.10	42.50	*	0.9	1.4	4.0	9.0

* = Insufficient information.
1/ Current dollars. Estimated cash rent as a percent of per acre value of rented pasture.

Table 8.--Cattle grazing rates on privately owned nonirrigated land, 1986-89

State	1986	1987	1988	1989
	Dollars per animal unit month 3/			
Northern Plains:				
North Dakota	7.63	7.41	7.67	8.26
South Dakota	9.19	8.61	9.98	10.65
Nebraska	9.75	10.29	10.40	13.13
Kansas	8.17	8.87	9.42	10.13
Southern Plains:				
Oklahoma	5.08	5.68	6.09	9.94
Texas	8.79	8.30	8.06	9.37
Mountain:				
Montana	8.30	7.94	9.79	9.61
Idaho	7.51	6.60	6.99	6.93
Wyoming	8.31	6.31	8.93	10.06
Colorado	8.28	8.27	8.43	8.39
New Mexico	5.98	5.82	5.46*	7.51
Arizona	5.82	7.19	4.47*	3.92*
Utah	5.34	5.98	8.70	9.06
Nevada	2.95	7.31	1/	4.18*
Pacific:				
Washington	9.77	9.55	7.28*	7.94
Oregon	7.69	5.91	7.03*	7.40
California	7.93	8.46	9.43*	10.72
16-State average 2/	8.33	8.09	8.98	10.06

* = Coefficient of variation exceeds 25 percent.

1/ Insufficient number of reports for an accurate estimate of grazing rates.
2/ All States except Texas.
3/ Includes cow-calf rates converted to animal unit month (1 aum = cow-calf * 0.833)

Source: USDA, NASS. Agricultural Prices. PR 1 (12-89). Dec. 1989 and earlier issues.

Table 9.--Farmland transfers: Average acres per sale and price per acre, 1982-90 1/

Region	1982	1983	1984	1985	1986	1987	1988	1989	1990
	Acres per sale								
Northeast	131	114	143	132	138	138	141	137	132
Lake States	154	126	147	129	121	140	144	139	134
Corn Belt	125	127	133	127	129	134	142	139	138
Northern Plains	314	307	270	297	387	323	403	383	375
Appalachia	102	105	112	110	123	131	115	130	226
Southeast	225	191	181	210	185	219	194	211	204
Delta States	220	223	224	164	196	277	237	349	224
Southern Plains	449	305	340	324	325	356	529	397	542
Mountain	1,064	934	1,009	1,380	1,051	977	1,891	1,179	1,243
Pacific	287	270	225	245	165	245	383	567	489
47 States	271	219	232	259	245	236	317	290	306
	Price per acre								
Northeast	1,237	1,282	1,142	1,182	1,248	1,658	1,768	2,105	2,430
Lake States	1,329	1,201	1,119	945	806	666	644	744	800
Corn Belt	1,819	1,468	1,459	1,187	944	870	955	1,088	1,097
Northern Plains	536	505	525	408	265	265	260	294	323
Appalachia	1,078	987	1,151	981	984	961	951	1,060	1,022
Southeast	1,130	1,118	1,234	935	1,064	1,037	1,253	1,455	1,400
Delta States	1,351	1,226	1,120	924	793	662	527	565	649
Southern Plains	528	678	647	598	792	448	321	379	324
Mountain	382	382	364	306	274	273	160	236	242
Pacific	1,973	1,693	2,211	1,856	2,079	1,447	1,310	1,192	1,509
47 States	919	858	888	747	725	607	566	639	654

1/ Reported acres and prices for each State are weighted to regional and U.S. averages according to the State's acreage of land in farms. Arizona is excluded from averages for the Mountain region and the 47 States. Based on reported sales during the 5 months ending March 1, 1982-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990.

Table 10.--Principal use of farmland prior to sale: Percent of acres and value, 1990 1/

Region	Nonirrigated cropland	Irrigated cropland	Pasture and grazing land	Woodland on farms
		Percent of acres		
Northeast	84	2	5	9
Lake States	87	2	6	5
Corn Belt	75	3	15	7
Northern Plains	41	8	51	*
Appalachia	23	1	39	37
Southeast	31	11	31	27
Delta States	38	27	21	14
Southern Plains	16	10	73	1
Mountain	18	10	72	*
Pacific	11	41	48	*
48 States	34	11	48	7
		Percent of value		
Northeast	82	7	5	6
Lake States	91	3	3	3
Corn Belt	88	3	7	2
Northern Plains	53	23	24	*
Appalachia	41	2	47	10
Southeast	21	39	27	13
Delta States	32	37	20	11
Southern Plains	25	18	55	2
Mountain	16	34	50	*
Pacific	7	84	9	*
48 States	43	30	22	5

* Less than 0.5 percent.

1/ Based on reported sales during the 4 months ending January 1, 1990.

Highest per acre prices were reported in the Corn Belt ($1,097) and coastal regions—Northeast ($2,430), Appalachia ($1,022), Southeast ($1,400), and the Pacific ($1,509). Except for the Pacific region, acres per sale were relatively small, ranging from 132 acres in the Northeast to 226 acres in Appalachia. Cropland was the principal land use in these regions, accounting for 60 percent or more of all values, except in Appalachia (43 percent). Values in coastal regions are also driven upward by the strong demand for land for nonagricultural uses.

Most Buyers Are Owner-Operators

Owner-operators, including partial owners, continue to make the majority of farmland purchases. This group made 59 percent of the purchases, involving 57 percent of the acres sold and 60 percent of the value of farmland sold (table 11). Shares of purchases by other buyer groups included tenants (12 percent), retired farmers (2 percent), and nonfarmers (27 percent).

Shares among buyer groups have been fairly stable over the past several years. Ten years ago, owner-operators were involved in 50 percent of reported purchases with tenants (15 percent), retired farmers (2 percent), and nonfarmers (33 percent) accounting for the rest.

Owner-operator shares of acres bought were highest in the predominately agricultural regions of the Northern Plains (72 percent), Corn Belt (62 percent), and Lake States (56 percent) and also in the Pacific region (70 percent). Shares by nonfarmers were highest in the east coast regions where the demand for land is varied, and in the Delta States. Nonfarmers accounted for 38 percent of the acres bought in the Northeast, 61 percent in Appalachia, 43 percent in the Southeast, and 51 percent in the Delta States.

Seller Shares Similar to Year Ago

Shares by seller groups continued fairly stable. Estate sales represented about 21 percent of recent sales (table 12). Other sales were attributed to active farmers who remained in farming (20 percent), active farmers who retired or quit (16 percent), retired farmers (14 percent), and nonfarmers/nonfarm businesses (29 percent). Ten years ago, shares were distributed among estates (17 percent); active farmers who remained in farming, retired, or quit (38 percent); retired farmers (16 percent); and nonfarmers/nonfarm businesses (29 percent).

Estate sales occurred most often in the Corn Belt, Northern Plains, Southern Plains, and Appalachia, accounting for 20 to 30 percent in all regions. Sales by active farmers were most frequent in the Northeast (47 percent), Mountain region (47 percent), and the Pacific region (54 percent). Sales by nonfarmers/nonfarm businesses were highest in the Lake States (34 percent), Southeast (36 percent), and the Delta States (36 percent).

Table 11.--Farmland buyers: Percent of purchases, acres, and value by type of buyer, 1988-90 1/

Region	Buyer											
	Tenant			Owner-operator 2/			Retired farmer			Nonfarmer		
	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990
	Percent of purchases											
Northeast	17	10	14	44	45	44	1	1	1	39	44	41
Lake States	20	16	18	53	58	55	1	1	2	26	25	25
Corn Belt	12	12	12	58	58	62	2	2	2	28	28	24
Northern Plains	13	15	14	67	70	74	2	4	1	18	11	11
Appalachia	8	7	7	48	46	51	1	2	2	42	45	40
Southeast	4	4	4	44	51	46	1	2	2	51	44	48
Delta States	8	10	12	53	53	48	4	3	1	35	34	39
Southern Plains	13	13	14	53	54	62	2	2	2	31	31	22
Mountain	10	11	12	70	70	69	*	1	2	20	17	17
Pacific	13	12	12	62	73	66	1	1	■	25	14	22
48 States	12	11	12	56	57	59	2	2	2	30	29	27
	Percent of acres											
Northeast	22	11	14	41	47	47	1	2	1	37	40	38
Lake States	23	17	21	52	60	56	1	1	1	25	22	22
Corn Belt	12	10	11	57	56	62	2	2	2	29	32	25
Northern Plains	16	17	16	63	63	72	1	5	1	20	15	11
Appalachia	8	4	5	51	49	33	■	2	1	41	44	61
Southeast	2	4	2	42	57	54	*	1	1	55	39	43
Delta States	8	8	7	54	40	40	2	1	2	36	51	51
Southern Plains	14	10	7	54	47	53	2	1	*	30	42	40
Mountain	4	5	6	78	67	55	1	*	1	16	28	38
Pacific	4	5	13	80	60	70	■	*	■	16	34	17
48 States	10	9	9	64	57	57	1	2	1	25	32	33
	Percent of value											
Northeast	11	5	9	32	39	31	■	1	1	57	55	59
Lake States	23	17	20	52	60	58	1	1	2	24	22	20
Corn Belt	11	10	11	57	53	60	2	2	2	30	35	27
Northern Plains	12	13	15	68	71	75	1	4	■	19	11	10
Appalachia	8	5	6	50	51	46	1	1	1	41	43	47
Southeast	3	1	1	33	59	64	*	1	*	64	39	35
Delta States	9	7	7	55	41	39	2	2	1	34	50	53
Southern Plains	13	10	9	45	49	61	3	1	1	39	40	29
Mountain	5	7	7	78	61	52	1	1	1	17	31	40
Pacific	6	13	5	72	71	79	*	1	■	22	16	16
48 States	10	8	■	54	54	60	1	1	1	35	37	31

■ = Less than 0.5 percent.

1/ Percentages may not add to 100 because of rounding. Based on reported sales during the 5 months ending February 1, 1988 and 1989 and the 4 months ending January 1, 1990. 2/ Includes part and full-owner operators.

The percentage distributions of acres sold and value of sales among categories of sellers are generally consistent with the percentage distributions of the number of sales (table 12).

Tenure Shifts to Owner-Operators

Based on information about operator tenure before and after sale, tenure shifted from tenants to owner-operators. Prior to sale, owner-operators controlled nearly 39 percent of the farmland sold. After sale, their share increased to 68 percent. This shift was most pronounced in the Northern Plains, but also in the Corn Belt, Lake States, and Pacific regions.

Tenants operated just over 40 percent of all farmland sold prior to sale, but only 13 percent after sale. Hired managers operated close to 14 percent before sale and about 12 percent after sale. About 7 percent of all land sold was not farmed before its sale, nor expected to be farmed following the sale.

Cross-tabulations of figures for tenure groups before and after land sales also indicate an increase in the share held by owner-operators (table 13). About 77 percent of owner-operated land, prior to sale, is expected to continue to be owner-operated after sale. The rest will likely be operated by hired managers (10 percent), tenants (11 percent), or will not be farmed (2 percent).

Considering tenant-operated land prior to sale, about 77 percent is expected to be owner-operated after the sale. The remainder is expected to be operated by hired managers (4 percent), tenants (18 percent), or not farmed (1 percent). The tenurial shift toward owner-operators is further

Table 12.--Farmland sellers: Percent of sales, acres, and value by type of seller, 1988-90 1/

Region	Seller														
	Estate			Active farm operator who remained in farming			Active farm operator who retired or quit			Retired farmer			Nonfarmer/ nonfarm business		
	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990
	Percent of sales														
Northeast	11	10	[illegible]	26	21	21	28	28	26	15	18	20	20	23	25
Lake States	11	14	17	16	15	15	23	25	16	14	14	18	35	32	34
Corn Belt	23	29	28	18	15	17	17	15	15	12	13	14	31	28	26
Northern Plains	20	29	30	18	17	15	19	11	12	12	17	15	31	26	28
Appalachia	25	25	20	22	22	20	19	17	22	10	12	13	24	24	25
Southeast	11	18	15	30	30	25	16	14	11	7	10	13	36	28	36
Delta States	10	10	14	28	29	19	13	17	19	10	9	12	38	34	36
Southern Plains	20	21	21	27	25	24	15	15	15	10	10	13	28	29	27
Mountain	10	11	12	27	26	27	22	18	20	9	9	8	32	36	33
Pacific	10	10	8	22	35	32	19	20	22	9	11	8	40	24	30
48 States	18	21	21	22	21	20	18	17	16	11	13	14	31	28	29
	Percent of acres														
Northeast	10	8	9	27	19	20	30	34	29	15	18	20	18	21	22
Lake States	11	13	15	16	16	16	26	27	19	12	12	16	36	32	34
Corn Belt	20	25	27	20	17	16	18	15	14	10	11	12	33	32	31
Northern Plains	20	17	25	20	21	19	23	16	15	10	15	13	26	31	28
Appalachia	26	29	13	22	19	12	20	15	19	10	9	27	22	27	29
Southeast	7	19	12	35	36	38	12	16	10	10	8	8	36	21	32
Delta States	8	12	13	23	26	16	9	12	20	5	3	8	56	47	43
Southern Plains	18	23	14	28	35	35	22	13	27	5	6	6	26	23	18
Mountain	19	4	7	25	33	21	30	16	13	2	8	3	23	39	56
Pacific	10	4	11	24	19	35	18	19	16	5	10	7	43	48	31
48 States	17	15	15	24	26	23	23	16	17	7	10	10	29	33	35
	Percent of value														
Northeast	12	8	9	40	31	17	23	25	34	8	13	15	17	23	25
Lake States	12	13	16	15	16	15	25	27	18	13	13	17	34	31	34
Corn Belt	23	31	32	22	16	17	17	14	12	10	10	11	28	29	28
Northern Plains	22	26	30	21	21	15	20	13	16	11	15	13	27	25	26
Appalachia	29	27	18	25	20	18	20	17	22	10	10	12	17	26	30
Southeast	6	13	5	47	51	55	15	16	14	5	6	4	28	15	22
Delta States	7	11	12	28	30	18	10	12	23	6	4	6	49	43	41
Southern Plains	18	24	16	29	25	33	16	14	20	6	7	8	30	30	23
Mountain	9	5	8	26	46	24	32	15	14	4	7	5	30	27	49
Pacific	13	6	4	33	41	57	20	21	21	4	11	4	31	21	14
48 States	16	18	15	29	29	32	20	17	18	8	10	9	28	26	26

1/ Percentages may not add to 100 because of rounding. Based on reported sales during the 5 months ending February 1, 1988-89 and the 4 months ending January 1, 1990.

Table 13.--Tenancy before and after sale, in percent of acres sold, 48 States, 1990 1/

Person farming before sale	Person farming after sale				
	Owner	Hired manager	Tenant	Not farmed	Total
	Percent				
Owner	77	10	11	2	100
Hired manager	27	51	6	16	100
Tenant	77	4	18	1	100
Not farmed	49	4	8	39	100

1/ Based on reported sales during the 4 months ending January 1, 1990.

evidenced by their owning and operating nearly 50 percent of the land which was not farmed prior to sale, while nearly 40 percent will continue to not be farmed after the sale.

Most Farmland Sold To Stay in Agriculture Over Next 5 Years

About 88 percent of the farmland in reported sales is expected to remain in agricultural uses over the next 5 years (figure 5). Another 2 percent is expected to be used in forestry, and 10 percent in other uses such as recreational areas, housing, and commercial/industrial operations. These percentages are comparable to those reported a year ago.

Ninety percent or more of the farmland sold in the Corn Belt, Lake States, the two Plains regions, and Mountain and Pacific regions is expected to remain in agricultural use. Shifts from farmland to other uses were expected most often in the Northeast, Appalachia, and the Southeast. Land uses in these three regions are more varied than in other predominately agricultural areas.

Farmland expected to remain in agriculture over the next 5 years averaged 314 acres per sale and $643 per acre (table 14). Farmland expected to be in other uses averaged 276 acres per sale and $817 per acre. Acreage and prices for both uses varied widely among regions.

Figure 5

Probable Use of U.S. Farmland 5 Years After Purchase

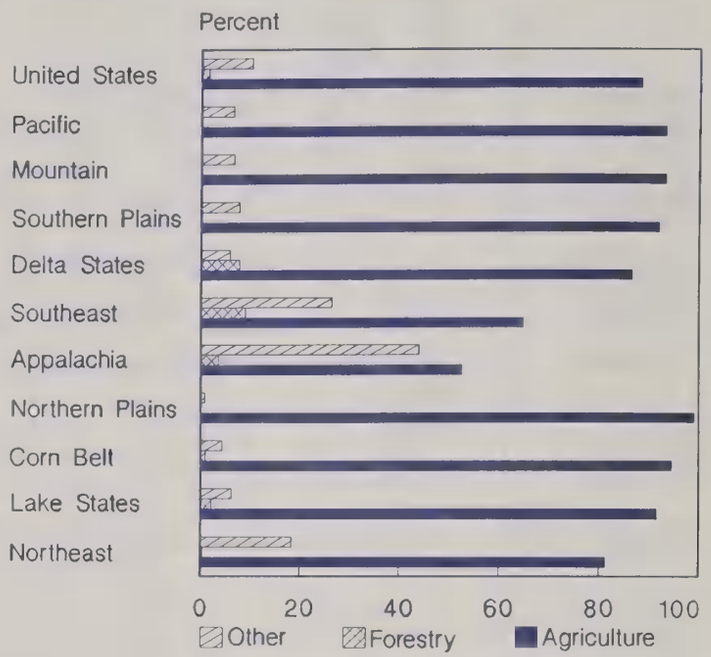


Table 14.--Farmland transfers: Average acres per sale and price per acre by probable use of property 5 years after purchase, 1988-90 1/

Region	Agriculture 2/			Forestry			Other 3/		
	1988	1989	1990	1988	1989	1990	1988	1989	1990
				Acres per sale					
Northeast	139	145	140	*	140	163	137	122	111
Lake States	149	146	143	96	74	147	82	72	73
Corn Belt	144	142	141	129	209	140	117	109	94
Northern Plains	410	389	384	*	*	*	255	168	198
Appalachia	120	143	142	123	147	204	98	92	429
Southeast	197	226	212	281	191	200	164	173	212
Delta States	260	399	262	150	96	139	124	275	124
Southern Plains	522	407	523	*	318	252	590	159	530
Mountain	1,892	1,167	1,258	*	39	*	722	625	1,131
Pacific	400	571	540	*	80	292	204	189	264
48 States	329	311	314	185	151	173	192	160	276
				Price per acre					
Northeast	1,435	1,738	1,485	*	759	497	4,383	4,978	4,483
Lake States	661	730	772	390	266	165	633	765	800
Corn Belt	918	1,103	1,053	645	303	507	833	1,462	1,101
Northern Plains	228	271	305	*	*	*	294	565	284
Appalachia	850	997	912	485	514	336	1,171	1,479	499
Southeast	1,174	1,166	2,064	491	740	621	1,217	3,138	1,399
Delta States	534	572	675	455	596	506	661	529	650
Southern Plains	309	373	318	*	525	322	376	657	331
Mountain	151	201	196	*	700	*	191	492	309
Pacific	899	483	1,640	*	563	514	3,414	1,212	1,350
48 States	458	542	643	505	622	490	1,046	1,797	817

* = Insufficient information or none reported.

1/ Based on reported sales during the 5 months ending February 1, 1988-89 and the 4 months ending January 1, 1990. 2/ Cropland and grazing land. 3/ Includes uses for recreation, rural residences, residential subdivisions, and commercial/industrial purposes.

Financing Rate Remains Steady

The proportion of sales involving financing began dropping in the early 1980's, leveling off at 66 percent in 1989 and 1990 (table 15). Regional percentages have also fallen; however, upturns were reported in 1990 for the Northeast, Northern Plains, Southeast, and Mountain regions. Regional percentages ranged from 59 percent in the Delta States to 77 percent in the Lake States.

Among financed sales at the national level, debt as a percent of purchase price dropped to 69 percent, down from last year's 73 percent (table 15). The percentage has been edging lower since the early 1980's when debt represented 78 percent of the purchase price. Most of this year's regional percentages were comparable to last, except in the Southeast where the percentage increased from 64 to 72, and the Pacific region where it dropped from 71 to 46.

Seller Financing Increases

Among reported sales involving financing, sellers provided 28 percent of the total credit extended, up from last year's 24 percent (table 16). Meanwhile, the share of commercial banks financing sales dropped from 34 to 28 percent. Other principal sources in 1990 included the Farm Credit System (27 percent), insurance companies (8 percent), and other sources (9 percent).

While seller financing was more widely used in the early 1980's when farmland values were high, such financing continues to be widely used in the Pacific (45 percent), Mountain (37 percent), Southern Plains (35 percent), Northern Plains (31 percent), and the Lake States (33 percent) regions.

Commercial banks accounted for a higher share in the Lake States, Appalachia, and the Delta States in 1990. Banks also provided a significant share of financing in the Corn Belt (37 percent) and the Southeast (37 percent). The Farm Credit System's share of financing has declined in the 1980's, but continues to be widely used in the Northeast (41 percent), the Delta States (32 percent), the Southern Plains (40 percent), and the Mountain (32 percent) regions.

Table 15.--Credit-financed farmland transfers, 1980-90 1/

Year	North-east	Lake States	Corn Belt	Northern Plains	Appa-lachia	South-east	Delta States	Southern Plains	Moun-tain	Pacific	U.S.
					Percent of transfers on which debt was incurred						
1980	93	95	93	94	88	86	87	88	93	92	91
1981	89	95	93	93	86	86	85	88	88	91	90
1982	88	94	91	91	83	88	83	85	89	92	89
1983	86	91	85	85	80	82	85	80	84	88	84
1984	84	90	85	85	78	82	82	81	88	89	84
1985	85	87	77	78	81	82	83	81	85	86	82
1986	82	83	72	69	75	74	82	76	78	78	76
1987	76	79	70	64	76	72	76	68	71	75	73
1988	78	78	67	62	72	63	74	68	76	73	70
1989	71	80	65	62	68	56	63	65	64	68	66
1990	76	77	64	65	65	60	59	64	68	68	66
					Debt as a percent of purchase price						
1980	80	82	79	83	81	79	87	68	75	71	78
1981	78	83	79	81	83	80	80	80	69	73	78
1982	77	82	78	81	78	78	82	76	74	70	77
1983	76	81	76	80	78	79	80	76	69	71	76
1984	80	81	78	76	80	76	87	76	73	73	77
1985	78	81	76	77	78	79	87	79	72	69	76
1986	77	77	73	79	81	83	85	82	72	71	77
1987	76	81	73	74	78	81	81	81	82	72	77
1988	68	77	70	75	75	74	80	79	61	68	72
1989	73	78	73	75	76	64	81	75	76	71	73
1990	76	78	72	70	78	72	82	74	76	46	69

1/ Based on reported sales during the 5 months ending March 1, 1980-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990.

Table 16.--Credit-financed farmland transfers: Percent of credit volume extended, by type of lender, 1981-90 1/

Regions and type of lender	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
	Percent									
Northeast:										
Sellers	38	38	29	29	32	28	31	27	22	19
Commercial banks	6	6	9	16	17	24	27	36	32	30
Insurance companies	*	*	1	1	*	*	2	*	1	*
Farm Credit System	34	35	39	27	23	20	19	24	40	41
Others	22	21	22	27	27	28	20	12	5	10
Lake States:										
Sellers	59	60	44	44	49	53	41	39	38	33
Commercial banks	2	4	6	10	12	16	30	31	37	39
Insurance companies	1	1	1	3	1	1	*	*	*	2
Farm Credit System	28	25	38	32	24	17	18	20	20	16
Others	10	10	11	11	15	13	10	10	5	10
Corn Belt:										
Sellers	38	37	37	32	27	30	20	17	20	21
Commercial banks	4	4	10	15	16	38	45	54	44	37
Insurance companies	4	5	5	4	8	3	7	2	7	10
Farm Credit System	44	44	37	36	33	16	15	15	25	25
Others	10	10	10	13	16	12	13	12	4	7
Northern Plains										
Sellers	44	35	32	27	25	49	24	19	24	31
Commercial banks	3	4	4	7	14	20	36	33	30	26
Insurance companies	3	3	2	4	4	10	2	3	4	2
Farm Credit System	34	39	42	43	39	14	23	34	33	26
Others	16	19	21	20	19	7	14	11	9	15
Appalachia:										
Sellers	21	27	17	17	26	27	15	18	30	18
Commercial banks	9	12	20	27	25	35	54	47	40	45
Insurance companies	2	2	4	1	1	*	1	1	*	*
Farm Credit System	42	38	33	33	25	18	13	21	24	27
Others	26	21	26	24	23	20	16	14	6	10
Southeast:										
Sellers	25	14	17	24	22	24	35	25	8	26
Commercial banks	3	5	19	9	10	16	23	44	48	37
Insurance companies	1	3	1	7	1	2	12	7	18	15
Farm Credit System	46	63	50	41	43	34	17	16	22	18
Others	25	15	12	20	23	23	12	9	4	4
Delta States:										
Sellers	20	15	13	19	15	9	19	7	13	16
Commercial banks	6	5	15	14	18	27	22	25	31	33
Insurance companies	3	15	3	3	9	10	3	7	20	6
Farm Credit System	47	44	42	38	29	34	12	40	31	32
Others	24	21	26	27	30	19	44	21	5	13
Southern Plains:										
Sellers	43	43	31	23	24	30	15	14	27	35
Commercial banks	7	5	9	13	11	13	23	26	29	16
Insurance companies	6	1	9	3	3	18	9	*	2	1
Farm Credit System	29	34	27	37	35	25	24	39	35	40
Others	15	17	25	23	28	14	29	21	7	8
Mountain:										
Sellers	46	56	41	22	50	42	52	33	40	37
Commercial banks	1	1	2	3	3	3	8	6	17	9
Insurance companies	9	5	7	18	1	1	2	7	7	9
Farm Credit System	35	27	35	37	29	27	26	35	27	32
Others	9	10	15	20	17	26	11	19	9	13
Pacific:										
Sellers	49	56	52	30	39	31	30	39	40	45
Commercial banks	4	1	2	6	7	9	12	3	10	5
Insurance companies	10	6	1	17	5	1	21	19	2	15
Farm Credit System	31	26	31	38	32	49	24	22	35	28
Others	6	11	13	9	17	10	12	18	13	7
48 States:										
Sellers	40	41	33	28	33	32	30	24	24	28
Commercial banks	4	4	9	11	13	21	28	32	34	28
Insurance companies	4	4	4	7	3	5	7	5	7	8
Farm Credit System	37	37	37	36	31	25	19	25	29	27
Others	15	14	16	18	20	17	16	14	6	9

* = Less than 0.5 percent

1/ Based on reported sales during the 5 months ending March 1, 1981-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990. Beginning in 1989, the Farm Credit System includes the Federal Land Banks and Production Credit Associations (PCA'S). In preceding years, the PCA'S were included in the "Others" group.

Foreign Ownership of U.S. Agricultural Land

The U.S. Department of Agriculture monitors foreign ownership of U.S. agricultural land (farm and forest land) under the Agricultural Foreign Investment Disclosure Act of 1978.

This law required all foreign owners of U.S. agricultural land, as of February 1, 1979, to submit reports to the Secretary of Agriculture detailing the number of acres owned and associated information. Thereafter, subsequent transactions (acquisitions and dispositions) must be reported to the Secretary within 90 days of their occurrence. Consequently, the Department maintains a continuing inventory of foreign investment in U.S. agricultural land.

As of December 31, 1989, foreign interests reported owning 12.9 million acres of U.S. agricultural land, up 263,000 acres from 1988 (table 17). The 12.9 million acres represent slightly less than 1 percent of the 1.3 billion acres of privately owned U.S. agricultural land and only about 0.5 percent of all U.S. land. The volume of foreign-owned U.S. agricultural land has been relatively constant at about 1 percent since 1981.

According to filed reports, forest land accounted for nearly half (6 million acres) of the foreign-owned land. Other principal uses included pasture (3.4 million acres) and cropland (2.3 million). Also, about 0.6 million acres were in other agricultural uses, including vineyards, citrus groves, and orchards. Another 0.6 million were in rural land not in agricultural production.

Corporations owned 10.5 million acres, partnerships 1.2 million, and individuals 1 million. The remaining 0.2 million acres were owned by estates, trusts, associations, and others.

Foreign interests from 7 countries jointly accounted for about three-fourths of all foreign owned acreage in the United States: Canada (23 percent), the United Kingdom (21 percent), West Germany (9 percent), France (7 percent), the Netherlands Antilles (5 percent), Switzerland (4 percent) and the Netherlands (4 percent). See appendix table 3. In addition, the Japanese own slightly more than 2 percent of all foreign-held acreage.

Foreign owners do not exclusively own all 12.9 million acres. About 60 percent of the acreage was owned by U.S. corporations in which foreigners had a significant interest or substantial control. The other 40 percent was held by foreigners not affiliated with U.S. corporations.

Within U.S. corporate holdings, an annual increase in foreign owned land does not necessarily represent land newly acquired by foreigners. Corporate landholdings may show up as foreign owned 1 year, but not another, as the corporation's stock passes in and out of foreign ownership. The corporation, however, continues to own the land.

If the holdings by U.S. corporations with foreign interests are subtracted from the total 12.9 million foreign owned acres, and if the forest land and nonagricultural rural land are also removed, only about 3 million acres of U.S. farmland are essentially 100 percent foreign owned.

Maine has the largest concentration of foreign owned acres, accounting for 16 percent of all foreign owned U.S. agricultural land and 11 percent of Maine's privately owned agricultural land. Four companies owned 92 percent of all foreign held acreage in the State. All land owned by these four companies was forest land. Two are Canadian, the third is a U.S. corporation which is partially Canadian owned, and the fourth is a U.S. corporation which is partially French owned.

Other foreign holdings were concentrated in the South (Appalachia, Southeast, Delta States, and Southern Plains regions) and in the West (Mountain and Pacific regions). The South and West each accounted for 35 percent of all foreign owned holdings. Rhode Island was the only State with no reported foreign owned agricultural land.

Foreigners appear to continue using the land for agricultural purposes. At the time of filing, 93 percent of the acreage was reported as being intended for agricultural use. No change in tenure was reported for 45 percent of the acres, while a change was reported for 26 percent. No information on tenure was reported for the remaining 29 percent of the acres.
[J. Peter DeBraal]

Table 17.-- U.S. agricultural landholdings of foreign owners, by State, December 31, 1989

State	Total land area of State 1/	Privately owned agricultural land 2/	Foreign-owned agricultural land	Proportion of foreign-owned to privately owned agricultural land
	----------Thousand acres---------		Acres	Percent
Northeast:				
Maine	19,837	18,829	2,067,155	11.0
New Hampshire	5,756	4,682	16,230	.3
Vermont	5,935	5,251	91,080	1.7
Massachusetts	5,008	3,322	1,934	.1
Rhode Island	675	439	0	
Connecticut	3,118	2,267	1,120	NEG
New York	30,321	24,257	267,170	1.1
New Jersey	4,779	2,894	27,024	.9
Pennsylvania	28,728	22,380	73,498	.3
Delaware	1,237	1,064	6,211	.6
Maryland	6,296	5,146	51,210	1.0
Lake States:				
Michigan	36,451	26,117	200,676	.8
Wisconsin	34,833	27,637	23,287	.1
Minnesota	50,911	36,204	230,808	.6
Corn Belt:				
Ohio	26,243	22,979	169,560	.7
Indiana	22,996	20,909	45,730	.2
Illinois	35,613	32,326	121,622	.4
Iowa	35,818	33,912	31,662	.1
Missouri	44,125	40,025	59,848	.1
Northern Plains:				
North Dakota	44,352	39,617	30,926	.1
South Dakota	48,609	38,241	42,901	.1
Nebraska	49,052	45,397	76,265	.2
Kansas	52,338	49,911	78,029	.2
Appalachia:				
Virginia	25,410	21,499	115,583	.5
West Virginia	15,436	13,744	74,156	.5
North Carolina	31,260	27,321	249,484	.9
Kentucky	25,388	22,915	84,443	.4
Tennessee	26,339	22,901	170,295	.7
Southeast:				
South Carolina	19,330	15,932	198,023	1.2
Georgia	37,156	33,253	576,047	1.7
Florida	34,658	26,529	558,429	2.1
Alabama	32,491	29,467	298,756	1.0
Delta States:				
Mississippi	30,229	26,629	442,365	1.7
Arkansas	33,330	28,834	182,658	.6
Louisiana	28,494	26,463	679,634	2.6
Southern Plains:				
Oklahoma	43,939	38,875	31,375	.1
Texas	167,691	156,768	1,049,637	.7
Mountain:				
Montana	93,048	54,189	487,812	.9
Idaho	52,744	15,166	18,796	.1
Wyoming	62,073	26,142	100,395	.4
Colorado	66,301	37,527	535,139	1.4
New Mexico	77,654	34,451	742,164	2.2
Arizona	72,645	10,983	271,197	2.5
Utah	52,527	10,779	61,710	.6
Nevada	70,332	7,586	156,465	2.1
Pacific:				
Washington	42,567	23,028	378,527	1.6
Oregon	61,558	25,685	647,497	2.5
California	100,031	47,353	942,821	2.0
Hawaii	4,112	1,992	106,559	5.3
Alaska	365,333	400	416	.1
50 States	2,265,107	1,290,217	12,875,504	1.0

1/ 1980 land area from Geography Division, Census Bureau. 2/ Privately held land based on T. Frey, unpublished data, Econ. Res. Serv., US Dept. Agr., 1979. Estimate of total land less public, Indian, transportation, and urban land. Includes forest land, pastureland, cropland, range, and miscellaneous.

NEG = Negligible

Farm Real Estate Tax Developments

Taxies levied on farm real estate (land and buildings) by State and local governments totaled $4,304.2 million in 1988, 1.7 percent above the 1987 figures (table 18). The U.S. average tax per acre in 1988 was $4.92, up from $4.82 a year earlier. The 6-percent increase in average per acre value of U.S. farm real estate during 1988, together with the 2-percent increase in average tax per acre, led to a slight decline in the average tax per $100 of full market value on U.S. farm real estate from $.80 in 1987 to $.77 in 1988.

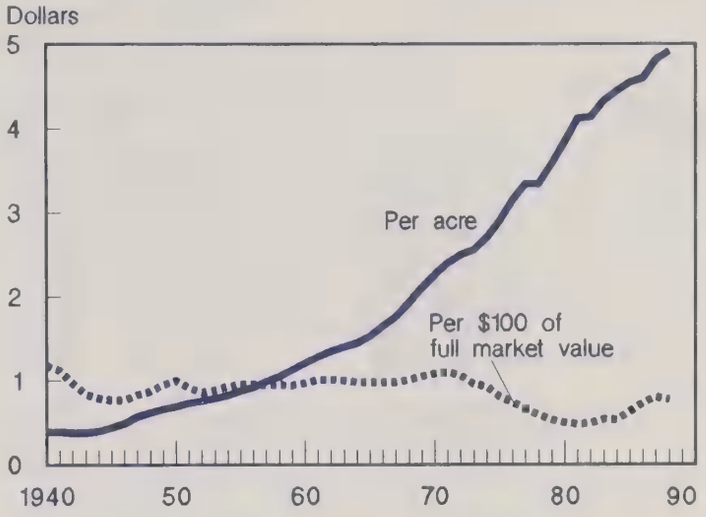
Compared with a year ago, average taxes per acre were higher in 38 States, lower in 8, and unchanged in 3. Average taxes per $100 of full-market value were higher in 17 States, lower in 26, and unchanged in 6.

Farm real estate taxes varied among States, and within some regions. For example, 1988 average taxes per acre in the Corn Belt ranged from $2.37 in Missouri to $16.69 in Illinois. Variations across the country are partly due to (1) the degree that States rely on real estate taxes as sources of local revenue, rather than income or sales taxes; and (2) the extent that States provide property tax relief for farming communities. [1/]

Background on Tax Data

The tax data represent estimates of real property taxes on farm and ranch lands and buildings levied by State and local governments. Special assessments for such uses as drainage and irrigation are excluded. The data were obtained from a nationwide survey of approximately 4,200 taxing officials, providing tax and acreage information on approximately 42,000 parcels of farm and ranch lands. The 1987 data, published a year ago, have been adjusted to reflect changes in the number of acres of land in farms, as reported in the 1987 Census of Agriculture, and recent ERS revisions in farmland values.

Figure 6
U.S. Farm Real Estate Taxes



Property Taxes as a Source of Local Revenue [2/]

The contribution of property taxes (real and personal) to combined State and local revenues has been declining, dropping from approximately 46 percent at the national level in 1960 to 30 percent in 1988. Meanwhile, the share of State and local income taxes rose from about 10 to 26 percent of revenues during 1960-88. Sales taxes provided from 32 to 36 percent of the revenues, and miscellaneous taxes around 10 percent. In 1988, sales taxes represented the largest source of State and local revenues in 31 States, while the property tax was the principal source in 13 States. State and local income taxes were the largest source in 5 States. [J. Peter DeBraal]

[1/] For a summary of State laws providing preferential assessment of farmland, see J.D. Aiken, *State Farmland Preferential Assessment Statutes*, RB310, Agricultural Research Division, Institute of Agriculture and Natural Resources, University of Nebraska—Lincoln, prepared under a cooperative research agreement with the RTD, ERS, USDA (Sept. 1989).

[2/] *FTA Tax Administrators News*, pp. 34-35, Vol. 54, No. 3 (March 1990).

Table 18.--Taxes levied on farm real estate, by States, 1987-1988 1/

State	Total taxes		Average tax per acre		Taxes per $100 of full market value	
	1987	1988	1987	1988	1987	1988
	Million Dollars		Dollars		Dollars	
Northeast:						
Maine	10.4	11.4	7.80	8.53	.88	.89
New Hampshire	6.7	8.0	16.39	19.06	.89	.90
Vermont	16.8	17.2	12.01	12.38	1.08	1.10
Massachusetts	13.1	16.2	22.16	27.95	.74	.79
Rhode Island	2.4	2.6	42.41	44.95	1.25	.95
Connecticut	9.3	10.1	23.88	25.86	.67	.62
New York	134.2	141.7	16.04	17.14	1.67	1.73
New Jersey	28.4	30.5	32.37	35.53	.87	.90
Pennsylvania	104.9	112.0	13.48	14.57	.88	.92
Delaware	.8	.8	1.39	1.37	.08	.08
Maryland	21.2	21.3	8.93	9.37	.44	.41
Lake States:						
Michigan	311.3	314.9	30.31	30.94	3.28	3.19
Wisconsin	238.3	258.0	14.40	15.59	1.85	1.89
Minnesota	159.9	155.2	6.04	5.86	1.03	.84
Corn Belt:						
Ohio	144.9	148.5	9.71	9.95	.89	.83
Indiana	111.8	117.0	6.94	7.17	.65	.62
Illinois	494.3	474.7	17.38	16.69	1.51	1.32
Iowa	333.2	323.2	10.56	10.24	1.34	1.08
Missouri	67.5	68.6	2.32	2.37	.38	.37
Northern Plains:						
North Dakota	77.4	77.6	2.06	2.07	.68	.65
South Dakota	102.7	105.6	2.77	2.85	1.16	1.06
Nebraska	261.2	274.4	5.96	6.27	1.49	1.37
Kansas	121.6	131.7	2.62	2.84	.70	.69
Appalachia:						
Virginia	44.5	50.2	5.16	5.83	.45	.49
West Virginia	3.3	3.4	.99	1.01	.16	.15
North Carolina	50.0	51.7	5.33	5.62	.42	.44
Kentucky	33.6	32.7	2.41	2.36	.27	.26
Tennessee	46.1	47.1	3.97	4.06	.42	.41
Southeast:						
South Carolina	13.1	14.4	2.79	3.06	.35	.35
Georgia	48.7	52.6	4.57	4.93	.51	.54
Florida	101.4	107.2	9.34	10.04	.58	.56
Alabama	10.5	11.0	1.16	1.23	.15	.15
Delta States:						
Mississippi	19.4	19.8	1.85	1.93	.27	.28
Arkansas	39.5	40.0	2.79	2.83	.39	.37
Louisiana	19.0	19.2	2.39	2.47	.26	.26
Southern Plains:						
Oklahoma	55.3	54.7	1.83	1.81	.39	.38
Texas	307.9	304.6	2.41	2.39	.44	.44
Mountain:						
Montana	84.1	85.3	1.19	1.21	.59	.59
Idaho	41.1	39.2	3.63	3.48	.66	.61
Wyoming	16.7	16.8	.71	.71	.54	.48
Colorado	59.3	61.6	1.99	2.09	.45	.57
New Mexico	10.9	10.9	.36	.36	.23	.20
Arizona	40.7	40.7	4.70	4.77	1.57	1.71
Utah	11.9	12.1	1.69	1.72	.37	.41
Nevada	3.0	3.5	.57	.66	.24	.29
Pacific:						
Washington	60.2	60.2	4.69	4.69	.62	.63
Oregon	72.7	76.2	4.49	4.73	.83	.87
California	247.0	245.8	9.46	9.50	.61	.60
Hawaii	21.2	21.8	12.48	12.74	.72	.66
49 States 2/	4,233.5	4,304.2	4.82	4.92	.80	.77

1/ 1987 numbers revised.
2/ Excludes Alaska.

Appendix table 1.--Total value of farmland and buildings, by State, 1983-90 1/

State	As of April 1			As of February 1				As of January 1
	1983	1984	1985	1986	1987	1988	1989	1990
	Million dollars							
Northeast:	37,094	38,193	36,184	35,221	38,408	40,271	44,927	45,135
Maine	1,119	1,091	1,153	1,273	1,284	1,395	1,493	1,493
New Hampshire	634	677	777	875	923	1,077	1,153	1,153
Vermont	1,431	1,465	1,515	1,695	1,704	1,708	1,828	1,828
Massachusetts	1,335	1,437	1,616	1,905	2,078	2,416	2,585	2,585
Rhode Island	207	202	218	240	247	347	371	371
Connecticut	1,327	1,307	1,442	1,518	1,565	1,835	1,964	1,964
New York	7,761	7,975	7,464	7,503	8,350	8,540	8,842	8,753
New Jersey	3,140	2,900	2,833	2,758	3,356	3,493	4,086	4,168
Pennsylvania	13,224	13,887	12,416	11,322	12,939	13,106	15,667	15,667
Delaware	1,189	1,214	1,037	1,078	1,040	1,041	1,218	1,377
Maryland	5,727	6,038	5,711	5,057	4,921	5,313	5,720	5,778
Lake States:	69,615	68,448	56,733	46,939	41,530	46,204	48,536	51,656
Michigan	13,942	14,183	12,517	11,230	10,164	10,584	10,801	11,449
Wisconsin	20,257	19,876	16,905	14,889	13,761	14,620	15,264	15,264
Minnesota	35,416	34,389	27,311	20,821	17,605	21,000	22,470	24,942
Corn Belt:	186,819	181,813	138,786	121,672	111,988	125,033	137,896	140,669
Ohio	23,914	23,701	19,203	17,944	17,115	18,704	20,081	19,880
Indiana	26,726	27,012	22,049	19,144	17,194	18,991	20,510	21,126
Illinois	52,722	52,965	39,647	35,354	32,865	36,093	39,564	40,355
Iowa	56,751	50,996	36,653	29,330	26,334	31,725	37,118	37,860
Missouri	26,707	27,139	21,234	19,901	18,479	19,520	20,623	21,448
Northern Plains:	95,741	93,578	74,464	65,034	59,613	66,176	72,019	78,176
North Dakota	17,999	18,320	15,253	13,638	12,319	12,951	13,307	14,106
South Dakota	15,486	16,176	12,856	11,900	10,548	11,917	12,989	14,938
Nebraska	33,227	30,445	22,911	19,629	18,886	21,525	24,753	26,486
Kansas	29,028	28,637	23,443	19,866	17,861	19,783	20,970	22,647
Appalachia:	57,029	57,984	53,624	52,591	50,500	51,860	54,191	57,970
Virginia	11,025	10,908	10,566	10,963	10,497	10,902	12,184	14,377
West Virginia	2,752	2,654	2,186	2,281	2,343	2,523	2,650	2,411
North Carolina	14,454	15,715	14,373	13,542	13,220	13,009	13,388	13,254
Kentucky	15,210	14,989	13,849	13,646	12,649	12,813	13,105	14,677
Tennessee	13,588	13,718	12,650	12,160	11,790	12,613	12,865	13,251
Southeast:	47,811	47,417	45,182	43,173	42,933	45,641	47,737	51,448
South Carolina	5,487	5,188	4,939	4,699	4,197	4,616	5,032	5,032
Georgia	12,727	12,437	11,968	11,345	11,554	11,960	12,635	13,267
Florida	20,015	20,402	19,346	18,293	18,775	20,585	21,251	23,801
Alabama	9,582	9,390	8,929	8,837	8,407	8,480	8,819	9,348
Delta States:	41,943	43,073	40,270	34,755	29,448	29,987	30,771	30,947
Mississippi	12,784	13,488	12,054	10,898	9,451	9,410	9,548	10,026
Arkansas	15,649	15,430	14,425	12,301	11,434	12,024	12,306	12,183
Louisiana	13,510	14,155	13,791	11,556	8,564	8,554	8,917	8,739
Southern Plains:	97,944	107,353	113,715	96,721	88,351	87,648	85,483	83,774
Oklahoma	23,416	23,680	19,691	17,173	15,686	15,840	17,266	16,920
Texas	74,528	83,673	94,025	79,548	72,664	71,808	68,218	66,853
Mountain:	78,521	81,508	74,344	65,643	63,010	62,847	63,621	66,661
Montana	15,877	16,867	14,800	14,203	12,138	12,444	12,671	14,699
Idaho	12,129	11,884	10,711	8,958	7,612	7,836	8,228	9,380
Wyoming	6,755	6,923	6,287	5,518	5,464	5,116	4,962	5,309
Colorado	15,799	16,237	15,042	12,310	12,512	12,435	12,362	12,362
New Mexico	8,188	8,869	8,324	7,199	6,974	8,010	8,571	8,914
Arizona	10,838	11,665	11,062	10,076	11,071	10,184	9,944	9,645
Utah	6,720	6,728	5,947	5,426	5,101	4,803	4,803	4,562
Nevada	2,216	2,335	2,171	1,952	2,138	2,020	2,081	1,790
Pacific:	91,384	93,562	86,094	79,355	71,329	71,242	74,200	78,612
Washington	15,208	15,645	15,187	13,433	12,095	11,824	12,297	13,035
Oregon	12,690	12,949	11,077	10,211	9,676	9,648	9,648	10,709
California	63,486	64,967	59,829	55,711	49,559	49,770	52,255	54,868
48 States	803,902	812,929	719,398	641,104	597,110	626,909	659,381	685,048

1/ Current dollars. Total values are estimated by multiplying per acre values times acres of land in farms. Total values for 1984-89 have been revised following revisions of per acre values and land in farms.

Appendix table 2.--Average per farm value of farmland and buildings, by State, 1983-90 1/

State	As of April 1			As of February 1				As of January 1
	1983	1984	1985	1986	1987	1988	1989	1990
	Dollars							
Northeast:	218,949	230,676	223,955	222,822	247,365	263,953	301,177	302,577
Maine	138,104	141,740	153,756	167,500	175,872	191,082	204,458	204,458
New Hampshire	186,459	199,010	228,599	273,341	288,539	336,600	360,162	360,162
Vermont	190,853	200,626	210,440	238,765	240,054	240,631	257,475	257,475
Massachusetts	211,879	221,143	248,690	280,147	305,618	350,151	374,661	374,661
Rhode Island	252,439	262,647	283,454	311,334	321,290	450,135	481,645	481,645
Connecticut	308,721	311,227	351,767	370,145	391,322	458,810	490,927	490,927
New York	158,398	169,684	169,635	174,479	198,798	208,288	226,710	224,442
New Jersey	330,526	311,814	311,349	313,366	394,880	420,810	492,347	502,194
Pennsylvania	224,136	239,428	214,075	200,386	231,057	238,285	290,127	290,127
Delaware	339,671	337,272	296,344	336,731	335,380	347,117	406,126	458,923
Maryland	318,150	339,190	326,348	297,446	298,238	332,084	366,688	370,355
Lake States:	274,074	278,243	236,388	200,595	180,566	200,887	214,761	228,565
Michigan	217,847	225,122	205,202	190,331	178,311	188,998	196,389	208,173
Wisconsin	230,189	231,118	203,675	181,576	169,892	178,295	188,450	188,450
Minnesota	347,216	354,526	284,486	223,877	191,360	228,261	249,667	277,130
Corn Belt:	367,032	365,822	284,398	254,013	240,317	269,468	301,742	307,810
Ohio	259,930	263,349	215,764	203,907	203,748	220,052	230,814	228,506
Indiana	318,167	329,420	272,213	245,430	232,358	256,638	288,880	297,547
Illinois	527,219	551,719	426,311	388,500	369,274	410,150	460,043	469,244
Iowa	493,485	451,289	330,210	269,082	246,111	296,491	353,502	360,572
Missouri	226,332	233,956	186,262	176,118	164,995	177,455	190,957	198,595
Northern Plains:	454,825	450,977	367,723	327,625	301,075	338,494	370,279	401,936
North Dakota	493,123	516,062	448,628	407,117	367,727	386,609	397,226	421,060
South Dakota	418,541	437,177	352,220	330,554	297,115	340,477	371,120	426,788
Nebraska	535,926	499,096	381,855	332,700	320,098	371,116	434,270	464,669
Kansas	387,044	386,989	325,601	283,798	255,152	286,706	303,908	328,221
Appalachia:	157,626	164,262	154,983	156,521	153,029	159,568	169,346	181,156
Virginia	190,086	194,783	195,663	214,953	214,234	227,121	259,227	305,888
West Virginia	120,702	120,627	104,096	108,599	111,589	120,162	126,170	114,815
North Carolina	174,145	198,930	189,125	185,501	188,853	191,307	205,966	203,906
Kentucky	147,675	148,407	138,488	137,843	127,765	132,091	136,509	152,890
Tennessee	143,027	144,402	133,159	132,174	129,563	138,600	141,372	145,613
Southeast:	268,601	275,683	268,144	260,081	263,391	278,301	295,586	318,564
South Carolina	189,200	185,273	179,606	174,041	161,409	177,550	197,324	197,324
Georgia	231,405	243,871	239,352	231,521	240,708	244,082	263,235	276,397
Florida	500,380	510,049	496,054	469,058	469,378	502,073	518,314	580,512
Alabama	177,437	177,179	171,717	173,265	171,571	176,667	187,643	198,901
Delta States:	294,340	308,769	298,297	267,344	232,794	241,833	246,169	247,577
Mississippi	250,671	269,765	251,129	236,915	214,788	224,036	232,883	244,527
Arkansas	279,450	280,546	272,164	246,020	233,351	245,384	251,146	248,634
Louisiana	380,563	410,289	405,624	339,872	255,629	259,212	254,767	249,672
Southern Plains:	366,833	402,070	430,740	369,163	341,123	341,043	335,228	328,524
Oklahoma	320,774	324,384	273,481	238,507	220,936	226,286	250,226	245,222
Texas	384,165	431,302	489,713	418,674	386,513	384,000	366,761	359,426
Mountain:	634,258	657,323	601,004	533,679	516,898	518,113	527,975	553,202
Montana	658,784	696,966	609,069	582,108	495,430	505,833	513,015	595,097
Idaho	495,045	483,083	435,386	373,257	330,974	348,284	368,978	420,635
Wyoming	734,239	760,750	698,574	613,156	620,905	574,787	557,543	596,571
Colorado	585,156	601,372	563,369	462,773	463,401	455,505	457,833	457,833
New Mexico	584,857	633,503	594,602	514,198	498,110	572,143	612,193	636,681
Arizona	1,321,646	1,405,443	1,301,455	1,171,577	1,317,923	1,257,222	1,227,600	1,190,772
Utah	480,000	480,595	427,811	396,077	375,104	361,090	369,423	350,952
Nevada	791,464	833,987	803,999	723,037	822,383	777,038	832,364	715,833
Pacific:	580,214	595,934	544,898	502,248	451,451	449,474	466,666	494,413
Washington	400,208	411,717	399,668	353,503	318,279	311,158	323,604	343,020
Oregon	338,400	349,985	299,377	275,967	261,504	264,318	260,746	289,428
California	774,217	792,280	720,837	671,220	597,097	592,500	622,088	653,192
48 States	338,696	349,111	314,522	285,624	270,471	286,016	304,189	316,030

1/ Current dollars. Average per farm value is estimated by dividing total value of farmland and buildings for each State by the State's number of farms. Values for 1984-89 have been revised.

Appendix table 3.--U.S. agricultural landholdings by country of foreign owner, December 31, 1989

Country	Acres	Country	Acres
Australia	3,414	Saudi Arabia	39,877
Austria	56,170	Singapore	1,048
Bahamas	32,734	South Africa	1,698
Bahrain	553	Southern Rhodesia	230
Belgium	62,871	Spain	1,998
Belize	549	Sweden	6,972
Bermuda	73,384	Switzerland	215,529
Bolivia	11	Syria	4,847
Brazil	1,621	Taiwan	6,948
British Virgin Islands	48,914	Tanzania	10,143
Canada	1,658,398	Thailand	240
Cayman Islands	23,529	Trinidad & Tobago	131
Chile	1,556	Turkey	558
China	496	Turks Islands	3,192
Colombia	8,735	United Arab Emirates	3,019
Costa Rica	15,579	United Kingdom	294,790
Cuba	20	Uruguay	11,370
Czechoslovakia	485	U.S.S.R	841
Denmark	9,706	Venezuela	18,176
Dominican Republic	2,129	Vietnam	152
Ecuador	1,040	Yugoslavia	1,024
Egypt	2,134	Multiple 1/	51,190
El Salvador	309		
France	87,518	Third tier 2/	61,511
Gambia	294	Subtotal 3/	5,087,850
Germany (West)	739,657		
Greece	57,423		
Guatemala	844		
Guyana	35		
Honduras	892		
Hong Kong	17,791	US/Andorra	3,741
Hungary	110	US/Argentina	4,255
India	1,688	US/Australia	1,480
Indonesia	804	US/Austria	19,264
Iran	3,961	US/Bahamas	68,867
Iraq	1,140	US/Barbados	41
Ireland	11,126	US/Belgium	71,500
Israel	991	US/Bermuda	38,711
Italy	82,418	US/Brazil	13,211
Ivory Coast	119	US/British Virgin Islands	3,285
Jamaica	1,621	US/Canada	1,384,829
Japan	171,330	US/Cayman Islands	42,045
Jordan	2,392	US/Chile	9,929
Kampuchea	31	US/China	14,326
Kuwait	1,568	US/Colombia	10,150
Laos	31	US/Denmark	6,761
Lebanon	13,147	US/Ecuador	1,549
Liberia	33,513	US/Egypt	1,963
Libyan Arab Republic	302	US/El Salvador	493
Liechtenstein	181,100	US/Finland	3,047
Luxembourg	6,485	US/France	828,092
Malaysia	7,948	US/Germany (West)	416,731
Mexico	161,028	US/Greece	7,061
Montserrat	145	US/Guatemala	412
Morocco	17,035	US/Guyana	334
Namibia	106	US/Honduras	37
Netherlands	126,334	US/Hong Kong	127,530
Netherlands Antilles	385,229	US/Indonesia	197
New Zealand	350	US/Iran	2,302
Nicaragua	1,378	US/Iraq	960
Nigeria	14	US/Ireland	2,984
Norway	5,526	US/Italy	12,319
Oman	454	US/Japan	123,634
Pakistan	2,171	US/Kenya	32
Panama	200,797	US/Korea (South)	75
Peru	281	US/Kuwait	7,628
Philippines	3,687	US/Lebanon	703
Poland	147	US/Liberia	29,945
Portugal	816	US/Libyan Arab Republic	280
St. Vincent	2,637	US/Liechtenstein	52,236

Appendix table 3.--U.S. agricultural landholdings by country of foreign owner, December 31, 1989 continued...

Country	Acres	Country	Acres
US/Luxembourg	232,911	US/Trindad & Tobago	20
US/Malaysia	300	US/Turkey	443
US/Mexico	169,088	US/United Arab Emirates	2,108
US/Netherlands	340,407	US/United Kingdom	2,426,925
US/Netherlands Antilles	229,525	US/Uruguay	618
US/Hebrides	2,991	US/Venezuela	38,080
US/New Zealand	594		
US/Nicagagua	282	US/Multiple	179,776
US/Norway	8,333		
US/Panama	128,597	US/Third Tier	386,872
		Subtotal 4/	7,787,654
US/Philippines	2,079		
US/Portugal	1,683		
US/Quatar	219		
US/Saudi Arabia	18,771		
US/South Africa	4,404		
US/Spain	4,170		
US/Sweden	3,424		
US/Switzerland	281,261		
US/Taiwan	10,578		
US/Thailand	252	Total all landholdings	12,875,504

1/ A report is processed as "multiple" when no single country predominates, for example, and equal partnership between a Canadian and a West German. 2/ A report is processed as "third tier" if three or more levels of ownership are reported with no foreign interest indicated. 3/ Total inteest excluding U.S. corporation with foreign shareholders. 4/ Total interest of U.S. corporations with foreign shareholders.

List of Tables

Table		Page
1.	Average per acre value of farmland and buildings, by State, 1983-90	5
2.	Average value per acre of farm real estate: Peak, trough and current	10
3.	Moderate increase in U.S. average farmland values expected over the next 12 months	11
4.	Slowdown in short-term increases in average farmland values	11
5.	Farms rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90	12
6.	Cropland rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90	14
7.	Pasture rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1986-90	15
8.	Cattle grazing rates on privately owned nonirrigated land, 1986-89	16
9.	Farmland transfers: Average acres per sale and price per acre, 1982-90	16
10.	Principal use of farmland prior to sale: Percent of acres and value, 1990	17
11.	Farmland buyers: Percent of purchases, acres, and value by type of buyer, 1988-90	18
12.	Farmland sellers: Percent of sales, acres, and value by type of seller, 1988-90	19
13.	Tenancy before and after sale, in percent of acres sold, 48 States, 1990	19
14.	Farmland transfers: Average acres per sale and price per acre by probable use of property 5 years after purchase, 1988-90	20
15.	Credit-financed farmland transfers, 1980-90	21
16.	Credit-financed farmland transfers: Percent of credit volume extended, by type of lender, 1981-90	22
17.	U.S. agricultural landholdings of foreign owners, by State, December 31, 1989	24
18.	Taxes levied on farm real estate, by States, 1987-1988	26

Appendix Tables

1.	Total value of farmland and buildings, by State, 1983-90	27
2.	Average per farm value of farmland and buildings, by State, 1983-90	28
3.	U.S. agricultural landholdings by country of foreign owner, December 31, 1989	29

Revisions in the Farmland Value Series

by Fred Kuchler and Oscar Burt*

Abstract: USDA farmland value estimates are revised every 5 years, based on values published in the Census of Agriculture. Annual farmland values published in this report have been revised, based on the 1987 Census of Agriculture. This paper examines the costs and benefits of making revisions and a new method for making revisions is addressed.

Keywords: Farmland values, revisions, extrapolation, interpolation.

Introduction

Farmland value estimates for 1984-88 have been revised, based on new information from the 1987 Census of Agriculture. The previously published 1988 average farmland value for 48 States of $564 has been revised upward to $632 per acre, a 12-percent increase.

ERS analysts use a benchmark and mover system to estimate annual farmland values (1). 1/ The benchmark data for the farmland value estimates are derived from the Census of Agriculture, which is conducted every 5 years. The Census of Agriculture estimates of farmland value are used directly for the years of the Census, and are the basis for estimates for intercensus years. The Agricultural Land Value Survey (ALVS) is used as a benchmark mover to calculate farmland values for nonbenchmark years.

In practice, the ALVS is used to estimate annual percentage changes in State farmland values. The percentage changes are cumulatively applied to the most recent Census of Agriculture estimate of the value of farmland and buildings, thus extrapolating the Census estimates. When the next Census estimates become available, annual estimates for the intercensus years are recalibrated to the Census.

Maintenance of the direction and relative magnitude of the initial changes are desirable characteristics in an adjusted series. Some prior benchmark adjustments in the farmland value series were made without regard to the pattern of percentage changes established by annual estimates. This article describes an adjustment method which takes account of the relative magnitude of annual changes (percentage changes), as well as the direction of change. The new method was used to adjust the 1984-88 farmland values for each State, region, and 48-State estimate in this report.

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Background

Both the USDA's Economic Research Service and the Department of Commerce's Bureau of the Census publish estimates of farmland value. USDA has made annual estimates of the value per acre of farmland since 1912 (4). Bureau of the Census estimates have been published once every 4 or 5 years since 1925 in the Census of Agriculture. Earlier estimates (from 1850) were published in the Census of Population.

The benefit of benchmarking comes from the characteristics of the Census sampling scheme. Bureau of the Census land values are obtained from the sample portion of the Census, but the sample is reputedly large. The number of questionnaire responses used in Bureau of the Census calculations is approximately 2 orders of magnitude larger than that of the ALVS. The Bureau of the Census sample is designed to yield statistically reliable estimates for each county. Neither the Bureau of the Census nor USDA has resources to repeat this procedure every year. The ALVS provides annual information, but is less precise than the Census because its sample size is designed to yield State (not county) estimates.

For some States, the USDA farmland value estimate nearly equals the Bureau of the Census value. The Massachusetts 1988 value has been revised downward $1 per acre. In this case, there is no reason to make major revisions from the 5 extrapolated values. The choice of a revision technique is inconsequential. Other values have been significantly changed: for example, the 1988 New Jersey value has been revised downward $2,220 per acre (table A-1). Although this revision is an extreme case, it highlights the importance of the method of revisions. The extrapolated values must differ from the revised values. However, the different revision techniques yield paths between the benchmarks that differ by hundreds of dollars.

Reasons for the Difference Between Estimates

The ALVS does not exactly replicate the Census, so some systematic and nonsystematic differences exist between the

Table A-1--Per-acre farmland values under different revision techniques

Year	Extrapolated value	Revised values	
		New method	Previous method
		Dollars	
48 State estimates			
1983	788	788	788 (benchmark)
1984	782	801	796
1985	679	713	706
1986	595	640	636
1987	547	599	601
1988	564	632	632 (benchmark)
New Jersey estimates			
1983	3140	3140	3140 (benchmark)
1984	3234	2959	2790
1985	3525	2951	2637
1986	3913	2997	2581
1987	5321	3729	3545
1988	6189	3969	3969 (benchmark)

estimates. The difference in resources devoted to obtaining each farmland value estimate may produce differences in the estimates. Different methods are used to estimate farmland values.

The ALVS is designed to provide State- rather than county-level estimates. Thus, some differences in precision should be expected. The effect on descriptive statistics from differing sample sizes is magnified by the fact that USDA surveys are conducted on a voluntary basis, while responding to the Census is mandatory. This raises the possibility of some nonresponse bias in the ALVS, the direction of which is unknown. The Bureau of the Census can compare farmland values with other financial variables to check their consistency, while ALVS is independent of other variables.

There are two reasons to expect systematic and predictable differences. The Bureau of the Census attempts to contact "all individuals, businesses, and organizations that could readily be identified as associated with agriculture" (3). The ALVS sample frame is weighted toward commercial farm operators. Thus, ALVS-derived estimates probably do not fully reflect the impact of small-tract, hobby, or urban-influenced demand for farmland. Also, the ALVS concentrates on farmland, the major component of farm real estate, and assumes that farm buildings and other components move in fixed proportions.

The National Agricultural Statistics Service (NASS) designs and carries out ALVS. NASS draws a random sample of farm operators who will receive the questionnaire from its list of farms. It is very difficult to keep a current list of small farms. Small farms are more likely to be hobby farms or urban-influenced than are large farms. NASS puts more effort into maintaining a current list of commercial farms. The entire population of farms probably contains a higher proportion of small, hobby, and urban-influenced farms than does the annual sample drawn by NASS.

To put the problem of the impact of differing populations in perspective, one can note that the Bureau of the Census defines a farm as an enterprise earning $1,000 or more a year in sales of agricultural products. Approximately half the enterprises Bureau of the Census classifies as farms sell less than $10,000 in agricultural products. The difficulty of quantifying the nonfarm demand for farmland means that one could expect ALVS-derived estimates to typically underestimate Bureau of the Census values when nonfarm demands for farmland are relatively strong.

When urbanization influences the value of farmland, the opportunity cost of using that land for agricultural purposes exceeds that of other land. Thus, when farmland used only for commercial agriculture is falling in value, as was largely the case over the revision period, the value of urban-influenced farms will not fall as fast or as far as the value of larger enterprises. For example, nominal values in the Northeast, which has relatively strong urban demands, fell 4 percent over 1984-86. But in the Northern Plains, where urban demand is lower, nominal values fell 48 percent over 1982-87.

As noted, the ALVS estimates are based on the assumption that the values of land and of buildings move in fixed proportions. So long as the components of farm real estate move by the same percentages, sampling one of the components will provide sufficient data for establishing an index to move the Census benchmark. The demand for buildings may be much more price-elastic than is the demand for farmland. In such a case, the assumption of fixed proportions could account for discrepancies between USDA and Bureau of the Census estimates when returns to agricultural production change.

Long-run changes in the farmland market suggest that focusing on farmland rather than farm real estate (land and buildings) is less likely to be a source of divergence among estimates now than when USDA began collecting this information. Many sales of farm real estate are now farmland sales. The Farmland Market Survey shows that fully half of the farmland sold has been sold without buildings in recent years. Today's typical transaction differs markedly from

transactions when USDA began taking farmland value surveys. Wiecking noted in 1927:

> ...farm land is usually bought and sold—as a unit with the improvements included. Land is seldom sold as "plowland" and it is difficult for the reporter to make a reliable estimate on something which is largely outside his experience [p. 33].

Whether the fixed proportions assumption is problematic or is trivial is under examination.

Previous Methods

The annual estimates of farmland value are the result of two different activities. The benchmark and mover system, a sequence of geometric adjustments, is an extrapolation method. The previously used revision method, which is additive, is an interpolation method. Using additive interpolation methods after geometric extrapolation methods have been applied means that some of the information derived from the annual surveys is discarded.

The geometric part of the activity is performed annually because the survey is used to identify percentage changes in land values. Estimated percentage changes in farmland values are cumulatively applied to the last available farmland value estimate put out by the Bureau of the Census. That is, each new survey-derived percentage change in land values is applied to the previous year's estimate. For example, if in the 3 years following a Census, land value changes were estimated to increase 5, 6, and 7 percent, the absolute level published for the third year would be 19 percent higher than the Census value (1.05 x 1.06 x 1.07 = 1.19).

The additive part of the activity is the 5-year revision that evenly distributes the difference between the current Bureau of the Census estimates of farmland value and the estimates extrapolated from the previous Census over the preceding 5 annual estimates.

Historically, the method of revision that occurred every 5 years attributed 20 percent of the difference to the most distant past year—5 years ago. The most distant past year was adjusted up or down (as appropriate) by 20 percent of the difference. The next most distant year was adjusted by 40 percent of the difference, and the following year by 60 percent. The penultimate year was adjusted by 80 percent and the most recent year received the entire adjustment.

It can be shown that revising according to the additive interpolation method implicitly requires ignoring the established pattern of percentage changes. Let I_t, $t = 1, 2, 3, 4, 5$ denote the extrapolated value series for a 5-year period in which I_5 is the most recent observation. Let X_0 and X_5 denote the Census value benchmarks to which the series will be adjusted. The revised series is denoted $\bar{X}_t$, $t = 1, 2, 3, 4, 5$, where $\bar{X}_0 = X_0$ and $\bar{X}_5 = X_5$.

The 5-year additive adjustment can be expressed as

$$\bar{X}_t = I_t + (X_5 - I_5)t/5.$$

The additive interpolation method is a relation among land value levels, not a relation among the percentage changes used to derive levels. Percentage changes do not enter the equation. In effect, the percentage changes and the established pattern of these changes are discarded; only the final compounded value I_5 enters in the calculation of $\bar{X}_t$.

The Resolution

The 5-year revision can be made without discarding the information contained in the annual percentage change estimates. A geometric interpolation method can be constructed and substituted for the additive interpolation method. Instead of using levels to interpolate, the estimated percentage changes can be systematically modified to meet the constraint imposed by the Census values. Again, $\bar{X}_t$ denotes the revised series, but under a new criterion. A simple method for accomplishing those goals is given in the following formula, which yields revised percentage changes:[2/]

$$\log \bar{X}_t - \log \bar{X}_{t-1} = \log I_t - \log I_{t-1} + c$$

Finding a value for c that satisfies the two constraints

$$\bar{X}_5 = X_5 \text{ and } \bar{X}_0 = X_0$$

yields a revised set of percentage changes. The revised percentage changes deviate from the original percentage changes by a constant, c. The formula is equivalent to asking what constant can be added to (or subtracted from) each percentage change so that end values are equivalent to Bureau of the Census values.

Finding a value for c that meets the Census constraints is straightforward. Let Δz_t denote the difference $z_t - z_{t-1}$.

Noting that

$$\Delta z_1 + \Delta z_2 + \Delta z_3 + \Delta z_4 + \Delta z_5 = z_5 - z_0$$

it is seen that the sum of the terms

$$\log \bar{X}_t - \log \bar{X}_{t-1} \text{ for } t = 1, 2, 3, 4, 5 \text{ is}$$

$$\log X_5 - \log X_0 = \log I_5 - \log I_0 + 5c$$

when X_5 and X_0 are substituted for $\bar{X}_5$ and $\bar{X}_0$.

Therefore,

$$c = [(\log X_5 - \log X_0) - (\log I_5 - \log I_0)]/5.$$

Operationally, the revised series for price levels can be calculated as

$$\bar{X}_t = \exp[\log \bar{X}_{t-1} + (\log I_t - \log I_{t-1}) + c],$$

where

$$\bar{X}_0 = X_0 \text{ and } t = 1, 2, 3, 4, 5.$$

At the national level, the adjusted series suggests a slightly revised view of aggregate land price changes. Prior to the adjustment, the estimates implied that prices fell continuously from the 1982 peak to 1987 (table A-1); the revised estimates show prices staying within 5 percent of the peak until 1985. Because the extrapolated changes in the U.S. average price were very slight from 1981 to 1984, both the new and the old interpolation methods, distributing an increase across 5 years, result in a slight increase rather than a decrease in 1984.

Other Benefits of the New Method

One of the characteristics of this revision technique is that it is invariant when adjusting for inflation. Often researchers wish to express prices in real or inflation-adjusted terms, usually by dividing the price series by a series of index numbers representing some measure of inflation. The new revision technique has the characteristic that the end product is the same regardless of whether the series is first revised and then deflated, or vice versa.

There are numerous series available for deflating values. Each has different characteristics, and alternate inflation adjustments are appropriate for different purposes. The invariance property specified here implies that when one researcher discusses the characteristics of inflation-adjusted farmland prices and the discussion is not entirely consistent with another researcher's results after adjusting for inflation, the difference can be wholly attributed to the different series used to generate real prices.

Conclusions

Revising series based on new information is a characteristic typical of government statistics. It is relatively rare to find a series that is not subject to such revisions. But it must be recognized that the agency revising a time series is essentially presenting a new view of history. Because we never know exactly why annual estimates differ from the Census, we attempt to maintain as much of the character of the original series after the revisions.

The precision benefits gained by benchmarking must be traded off against the fact that USDA surveys emphasize measurement of the behavior of commercial agricultural producers. The increasing polarization of the agricultural sector may render benchmarking obsolete (2). The continuing need to make revisions implies there are costs as well as benefits to be derived from benchmarking.

Footnotes

[1] Numbers in parentheses cite sources listed in the References.

[2] An approximation to percentage changes is the logarithmic difference, $\log z_t - \log z_{t-1} \simeq (z_t - z_{t-1})/z_{t-1}$. Logarithmic differences, rather than actual percentage changes, are sometimes more convenient because some sources of confusion are eliminated. For example, adding some percentage of a number to itself is not equivalent to subtracting the percentage from the larger number. Consider adding 10 percent to 100 (110) and then subtracting 10 percent from 110 (99). This is not a problem when working with the approximation. One way of stating this consistency of the changes-in-logs method is that the results are the same regardless of whether adjustments are made forward or backward in time.

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Rural Land Transfer Rates

by Judy Peterson*

Abstract: Data from the 1989 Rural Land Transfer Survey indicate a transfer rate of 3.5 percent for rural acres and 5.7 percent for rural parcels. Regional transfer rates vary widely; some of this variation is explained by characteristics of the parcels transferred.

Keywords: Transfer rates, transfer intervals, parcel characteristics.

Introduction

The 1989 Rural Land Transfer Survey (RLTS) presents the third year of data on the rate at which the ownership of rural land changes hands. The RLTS differs from the Farmland Market Survey discussed elsewhere in this report. The Farmland Market Survey describes sales of agricultural land; the RLTS focuses on the transfer of rural land and provides an estimate of the transfer rate.

Rural land may move into and out of agriculture through these transfers. In addition to market sales, other methods of transfer are important determinants of rural land prices and of changes in land ownership. The RLTS of county and other local officials collected data on agricultural and nonagricultural rural land and all methods of transfer, as well as the acreage transferred and the market value as reported by the local official.

According to the 1989 survey, 3.5 percent of rural land and 5.7 percent of rural parcels were transferred in 1988. ("Parcel" refers to the tract of land transferred; "land" refers to the acreage transferred.) As table B-1 indicates, these rates resemble those of 1987 and 1986, when the rates were 3.5 and 3.3 percent for land, and 4.6 and 5.0 percent for parcels.

Table B-1--Share of Parcels and Land Transferred, U.S. and Regions, 1986-88

	Acres			Parcels		
	1988	1987	1986	1988	1987	1986
	Percent					
Northeast	3.9	3.7	4.2	5.3	5.8	5.1
Lake States	3.2	2.4	2.3	3.8	1.9	2.5
Corn Belt	5.3	3.6	3.6	5.2	4.6	3.7
Northern Plains	4.6	3.8	3.5	5.2	3.5	3.1
Appalachia	10.9	4.1	4.8	9.2	4.8	6.7
Southeast	6.5	4.4	4.6	6.3	5.4	7.4
Delta States	6.9	5.7	4.9	9.0	8.5	8.1
Southern Plains	1.2	2.5	3.1	2.8	4.0	5.3
Mountain	3.5	3.3	2.1	3.3	4.8	4.2
Pacific	5.1	4.7	1.8	5.1	5.8	4.1
United States	3.5	3.5	3.3	5.7	4.6	5.0

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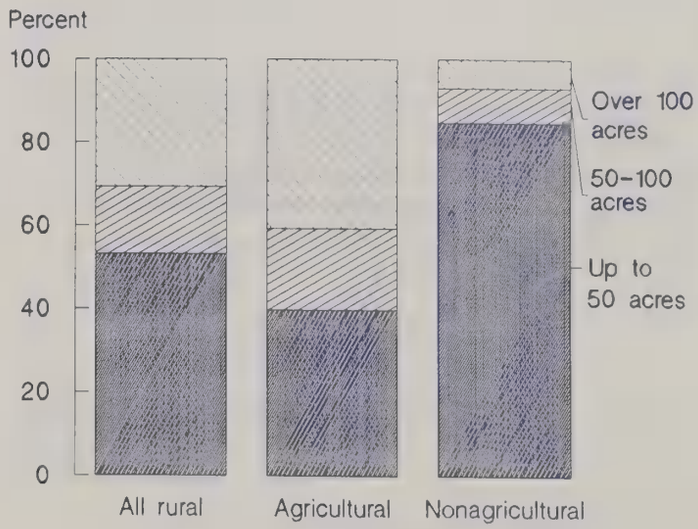
The regional rates vary widely. In 1988, transfer rates ranged from 1.2 to 10.9 percent for rural land and from 2.8 to 9.2 percent for rural parcels. This variation reflects differences in the characteristics of the parcels transferred, including type of rural land, size of parcel, value per acre, and method of transfer.

Transfer Rates Vary by Type of Land

The RLTS sampled all types of rural land, including farms, ranches, forests, wasteland, single residences, and isolated miscellaneous tracts outside urban areas. The survey did not include residential, commercial, or industrial developments. Land was classified as either agricultural or nonagricultural based on its use just before the transfer: parcels containing farms or ranches were classed as agricultural, and all others as nonagricultural. Transfer rates varied by type of rural land transferred: only 4.8 percent of agricultural parcels and 2.8 percent of agricultural land were transferred, whereas 6.5 percent of all nonagricultural parcels and 6.3 percent of all nonagricultural land were transferred.

Nonagricultural land tended to be transferred in smaller parcels than agricultural land. Figure B-1 indicates 40 percent of all agricultural parcels transferred had fewer than 50

Figure B-1
Parcels Transferred, by Use and Size



acres, while 85 percent of all nonagricultural rural parcels fell into this category. There were, however, a few large nonagricultural parcels transferred. The average parcel transferred had 213 acres; the average size was 285 acres for agricultural parcels, but only 45 acres for nonagricultural parcels.

Value per acre also varied by type of rural land. The average value per acre of rural land transferred was $552. For agricultural parcels, the average value per acre was $474, while for nonagricultural parcels, the average was $1,702.

Voluntary Sales Account for Most Parcel Transfers

The RLTS differs from the Farmland Market Survey, which is used to characterize arm's-length transactions. While the Farmland Market Survey asks for brokers' opinions on the distribution of types of transfers, the data related to actual transactions describe only voluntary and estate sales. The RLTS, which is based on local land records, covers all methods of transfer, including voluntary sales, family and estate sales, foreclosure, bankruptcy, condemnation, and distress sales, gifts and inheritances, and other miscellaneous transfers.

Voluntary sales were the predominant method of transfer: 72 percent of all rural parcels were transferred by this method (figure B-2). In terms of acreage, however, only 57 percent of all rural land was transferred this way. This difference in rates indicates that smaller parcels tended to be transferred through voluntary sales, because the transfer of a small parcel increases the parcel rate faster than it increases the acreage rate.

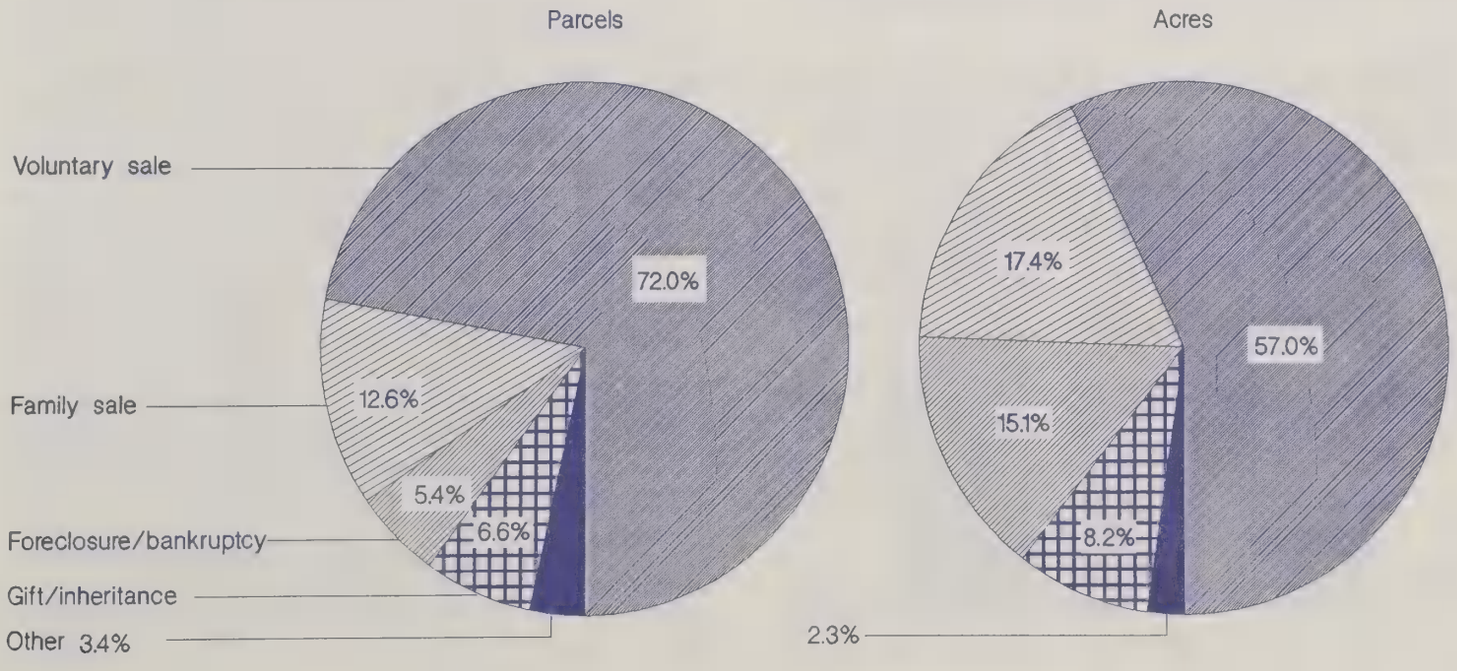
Foreclosures and bankruptcies, by contrast, account for only 5.4 percent of all parcels transferred, but 15 percent of all land transferred. The majority of nonagricultural parcels were transferred through voluntary sales; these parcels, as noted earlier, tend to be smaller than agricultural parcels. Large agricultural parcels are investments that are more likely to be vulnerable to economic reverses and are harder to finance. They are also likely to be transferred by methods other than voluntary sales.

Survey Supplement Provided Data on Transfer Intervals

The RLTS collected data on individual rural parcels transferred within a jurisdiction; local government officials also reported the total number of parcels and the number of parcels transferred within the jurisdiction. The latter information allowed the calculation of the transfer rate. The parcel data included number of acres in each parcel, type of land (agricultural or nonagricultural), method of transfer, and market value of the parcel.

A supplemental mail survey was taken on a smaller sample; it was identical in most respects to the main survey, but it also requested information on the interval of time between the parcel's 1988 transfer and its preceeding transfer. The supplemental survey was designed to allow direct comparison between length of interval and other parcel characteristics, such as size, type of land, method of transfer, and

Figure B-2
Types of Transfer



value per acre, to see how variations in these characteristics compared with variations in transfer rates. There were relatively more responses to the supplemental survey from the Midwest, but the data were roughly comparable to those collected through the main survey.

Interval Results Show Bimodal Distribution of Transfer Rates

Land tended to be held either for short periods or fairly long periods of time: 38 percent of the transfers in this survey occurred within 5 years of the previous transfer, 56 percent within the first 10 years, and 25 percent after 20 or more years (figure B-3). The data generally adhered to this pattern when broken down by type of land, method of transfer, and size of parcel.

Agricultural parcels exhibited a bimodal distribution of transfer rates; this characteristic was even more pronounced for nonagricultural rural parcels. Intervals between transfers of up to 10 years were reported for 62 percent of the nonagricultural parcels transferred, with 41 percent in the 1- to 5-year category alone. Intervals of over 20 years were reported for 30 percent of the nonagricultural parcels transferred.

The method of transfer showing the most pronounced bimodal trend was family and estate sales. In this category, 59 percent of the transfers took place at intervals of 10 years or less. In fact, 14 percent of the parcel transfers in this category occurred at intervals of 1 year or less. Such transfers could involve a number of adjustments within a relatively short time, each of which would be recorded as a separate transfer.

The majority of transfers in the mail survey involved parcels of 100 or fewer acres. Parcels of 5-50 acres tended to have especially short intervals: 46 percent were transferred at intervals of less than 5 years, 65 percent at intervals of less than 10 years. Transfers of parcels of 50-100 acres showed a slightly different pattern. While only about 19 percent of all transfers occurred at intervals of 10-20 years, 27 percent of the parcels in the 50-100 acre group had intervals in this range.

Higher Median Values Per Acre Correspond With Shorter Transfer Intervals

The median value per acre showed a general inverse relationship with the length of interval between transfers (figure B-4). For the shortest interval length, up to 1 year, the median value per acre was $942; for the longest interval, over 30 years, the value was only $484. The only interval that did not conform to this pattern was the 20- to 30-year group, with a median value of $631, compared with $559 for the 10- to 20-year group.

The correspondence between shorter transfer intervals and high values per acre is consistent with other results. As noted earlier, smaller, nonagricultural parcels are transferred at shorter intervals. Such parcels also tend to be sold voluntarily for high values. Those regions experiencing higher transfer rates have a large proportion of these small, nonagricultural parcels.

Conclusion

Variations in transfer rates for rural land can be explained in part by the type of land, size of parcel, method of transfer, and value per acre. Nonagricultural rural land is generally transferred at a higher rate, in smaller parcels, and with a higher value per acre than agricultural land. Voluntary sales were the predominant method of transfer, but they were associated with other transfer characteristics, such as short intervals, high values per acre, nonagricultural land, and small parcel size, which may explain the transfer rate.

Figure B-3
Parcels Transferred, by Length of Interval

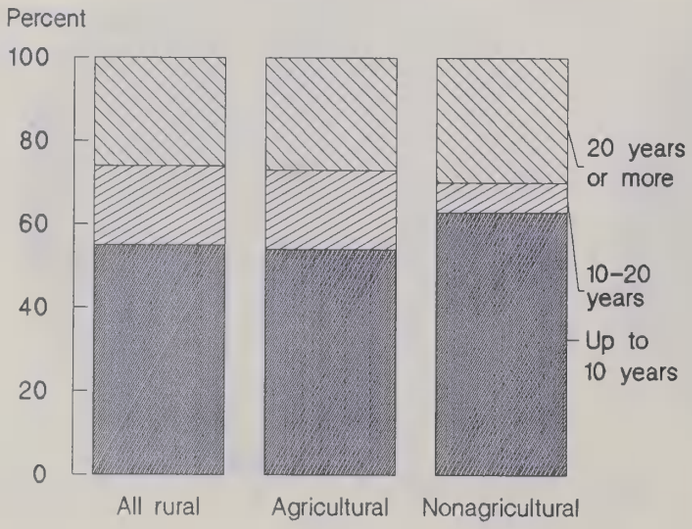
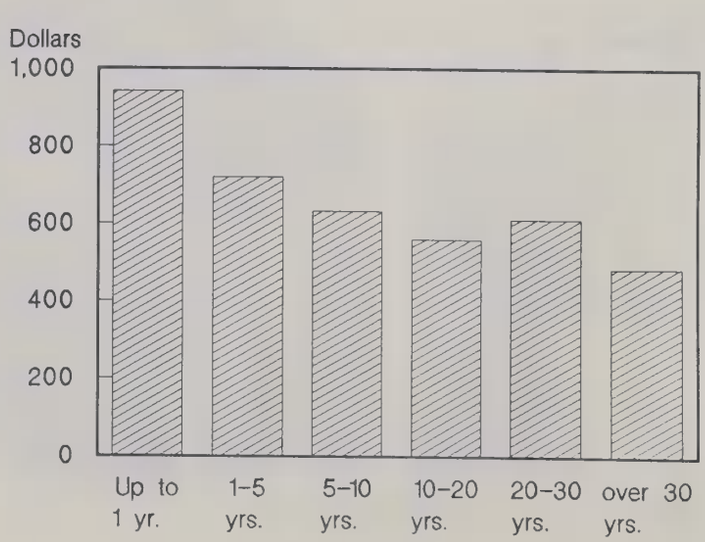


Figure B-4
Median Value Per Acre, by Length of Interval



What Low Rent-to-Value Ratios On Cash Rented Farmland Tell Us

by Karl Gertel and Felix Llacuna*

Abstract: Rent-to-value ratios decline with intensity of land use. Low rent-to-value ratios were most prevalent in the Southern Plains but also occurred in other regions except for the Corn Belt, Lake States, and Northern Plains. For the 1985-1987 period, low rent-to-value ratios are likely due to present or anticipated nonfarm returns or to nonmonetary returns from the satisfaction of ownership of farmland.

Keywords: Farmland values, nonfarm demand, rate of return, rent-to-value ratio.

Introduction

The rent-to-value ratio is the annual rent paid by the tenant divided by the market value of the land. The rent-to-value ratio is the gross rate of return the landlord receives from the farming operations on his land. This paper presents data on the range and geographic distribution of rent-to-value ratios. Particular attention is given to low rent-to-value ratios, possible causes, and implications. In brief, except for the Lake States, Corn Belt, and Northern Plains, low rent-to-value ratios are widespread, occur most often on pastureland, and for the 1985-87 period examined, appear to be indicative of present or anticipated nonfarm returns or nonmonetary returns from satisfaction or enjoyment of the ownership of farmland.

Why Low Rent-to-Value Ratios?

Economists have identified two reasons for low returns from farming.

First, landowners may accept a low rent from farming because they receive or expect returns from other uses of the land, for example, from oil or other minerals, revenues from hunting, or other recreational uses. Moreover, returns need not be in the form of money. They can be the enjoyment of rural living, pride of ownership, or other values (3,6,7,). 1/ Where conversion of farmland to nonfarm uses is expected, the higher future nonfarm returns are capitalized into present value of farmland and the ratio of rent to value is low (1). Whatever the source of these nonfarm returns, if they are widespread, they weaken the link between farm returns and farmland values, and rent-to-value ratios tend to stay low.

Second, where farmland values are determined by farm returns, there is an inverse relationship between the rent-to-value ratio (as well as other indicators of current rates of return) and expectations about agriculture. (4,5). When the outlook for agriculture is optimistic, land prices are bid up and owners will accept a low rate of return from current farming operations because they expect additional returns from higher future rents. When there is pessimism about agriculture, farmland prices are stable or declining. Then all returns must come from current income. In such situations, land prices will tend to adjust to a level that will result in an acceptable rate of return to landowners, competitive with returns from other investments. Rent-to-value ratios change because land values rise and fall more rapidly with changed expectation then does rent (2,4).

Figure C-1 shows rent-to-value ratios for whole farms rented for cash and net returns to farm assets which consist mainly of farmland. Data are given from 1974 to 1990 to show rent-to-value ratios and return to assets under conditions of both rising and falling farmland prices. Rent-to-value ratios were obtained from the *Agricultural Land Values and Markets Situation and Outlook Report,* while net returns to farm assets were obtained from the *Economic Indicators of the Farm Sector,* "National Financial Summary" series. Both series are published annually by the Economic Research Service.

Rent-to-value ratios are State average ratios, weighted by land in farms, for those States for which data were available for most of the period. These include the Corn Belt, the Lake States, Appalachia (excluding West Virginia), the Southeast (excluding Florida), North Dakota and South Dakota, Delaware, New Jersey, Maryland, and Pennsylvania.

The inverse relationship between rent-to-value ratios and values per acre of cash rented land, as well as between net returns to farm assets and average value per acre for the conterminous United States, can be observed by comparing the trends in figure C-1 with those of figure C-2 which show value per acre.

Rent-to-value ratios and net returns to farm assets fell in the 1970's as land prices increased. They rose in the 1980's as land prices fell, reaching a peak in 1987 when land values

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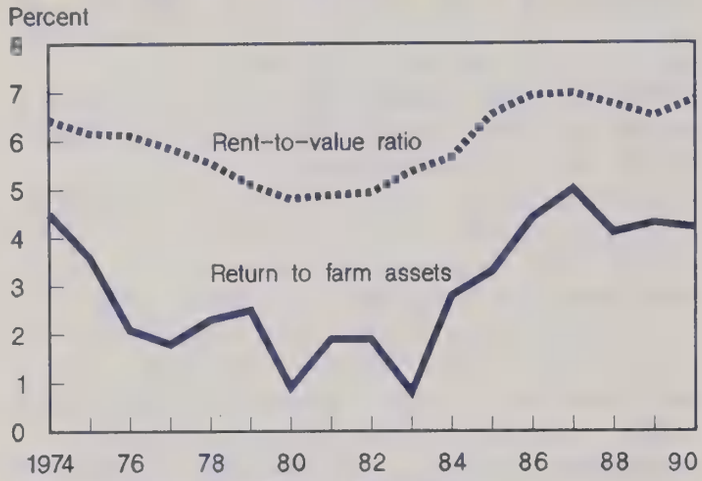
Figure C-1

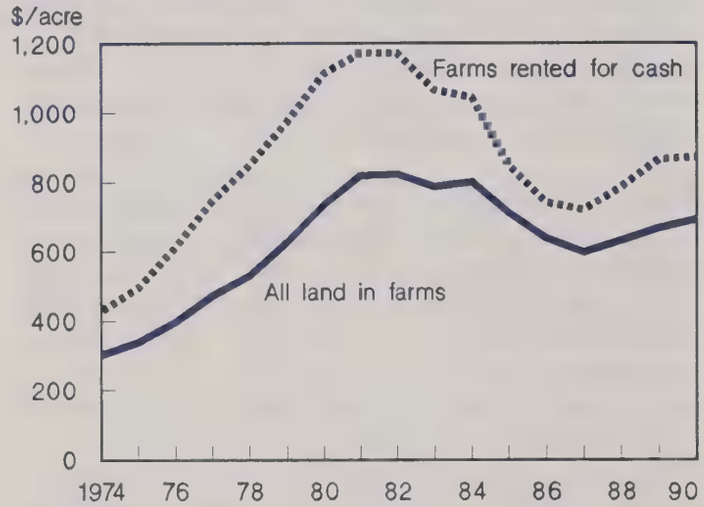
Ratio of Cash Rent to Land Value and Net Rate of Return to Farm Assets



Return to farm assets: 1989 preliminary. 1990 projected.

Figure C-2

Average Value of Farms Rented for Cash and All Land in Farms



reached a low. As farmland prices began to rise again in 1988, rent-to-value ratios and rates of returns to farm assets fell. The inverse relationship is explained by expectations about the agricultural economy. The optimism of the 1970's resulted in the bidding up of land prices and owners' willingness to accept low rates of return from current income. The pessimism of the early and mid-1980's resulted in lower land values and higher rates of return from current income.

For the 1985-1987 period, rent-to-value ratios in most agricultural regions were at a peak because land values fell in most States outside the Northeast. In those years, low rent-to-value ratios occurred mainly where farmland owners expected additional returns either from land appreciation, because of expected future conversion to nonfarm uses, or from current nonfarm returns on farmland, in terms of money or nonmonetary values enjoyed by the owner.

The Distribution of Rent-to-Value Ratios

Rent-to-value ratios reported by States mask wide variations of the ratios within some States. Therefore, county level data were deemed appropriate for analysis. Basic county data were obtained from the annual surveys of County Executive Directors of the Agricultural Stabilization and Conservation Service of USDA who are asked to estimate the market value of farmland and gross rent of cash rented farmland in their counties.

The distribution of rent-to-value ratios for the 3-year period 1985-1987 is given in table C-1. On the basis of conservative judgement, a rent-to-value ratio of less than 2.5 was designated low. After taxes, a rent-to-value ratio below 2.5 percent yields a net rate of return of 2 percent or less. This is approximately half of the average net rate of return of 4.3 percent earned on farm assets from 1985 to 1987.

Table C-1 covers approximately 73 percent of all irrigated cropland reported in the 1982 Census of Agriculture, 87 percent of all dry cropland and 74 percent of all pastureland. Two results stand out.

First, the mean or average ratio for all counties declines with intensity of land use. Rent-to- value ratios, when weighted by the acres in each reporting county, average 7.1 percent for irrigated cropland, 6.9 percent for dry cropland, and 3.7 percent for pasture. This is a logical pattern. The cropland landlord is more likely to have a higher cost of maintaining farm structures, drainage system, and other improvements than the pasture landlord. Therefore, in order to obtain a net rate of return that is equal to the net rate of return on pasture, the cropland landlord needs a higher gross rate of return (rent-to-value ratio) than the pasture landlord.

The second result that stands out in table C-1 is that 38 percent of all pastureland has a rent-to-value ratio of 0-2.4 percent. As mentioned above, one would expect a lower rent-to-value ratio on pastureland since landlord expenses are lower on pasture. But this does not explain why owners of 38 percent of all pastureland will accept a gross rate of return of 0-2.4 percent, less than half of the net returns that can be earned from interest on a savings certificate. The finding of a 0-2.4 rent-to-value ratio for 38 percent of all pastureland is consistent with cost and return studies for ranches and cow calf operations which persistently show very low or negative net returns (3,8).

The geographic distribution of cash rented farmland with a rent-to-value ratio of 0-2.4 percent is examined with the aid of table C-2. Most of the pastureland with a low rent-to-value ratio is located in the Southern Plains which have nearly half (48 percent) of all such land and in the Mountain States which account for another 30 percent.

Table C-1--Distribution of counties and acres by rent-to-value ratio, 1985-1987 1/

Rent-to-value ratio	Irrigated Cropland				Dry Cropland				Pasture			
Percent	Counties		Acres		Counties		Acres		Counties		Acres	
	No.	Pct.	1,000	Pct.	No.	Pct.	1,000	Pct.	No.	Pct.	1,000	Pct.
0 - 2.4	74	8.9	2,157	6.6	402	16.3	20,490	6.0	770	32.2	119,406	38.3
2.5 - 4.4	122	14.7	5,091	15.7	579	23.5	44,279	12.9	705	29.5	92,024	29.5
4.5 - 7.4	284	34.2	11,921	36.7	817	33.2	129,669	37.8	595	24.9	73,044	23.4
7.5 and over	350	42.2	13,287	40.9	664	27.0	148,517	43.3	318	13.3	27,153	8.7
Total	830	100.0	32,455	100.0	2,462	100.0	342,956	100.0	2,388	100.0	311,627	100.0
Mean of ratios:												
Unweighted			7.1				5.6				4.2	
Weighted with acres			7.1				6.9				3.7	

1/ County acreages are based on 1982 Census of Agriculture data. County data were excluded for this analysis if counties had data for only 1 of the 3 years from 1985 to 1987, reported rent-to-value ratio greater than 50 percent, or county rent-to-value data displayed coefficients of variation greater than 50 percent from 1985 to 1987.

Table C-2--Distribution of cash rented farmland with rent-to-value ratio of less than 2.5 percent by farm production region, 1985-87 1/

Region	Irrigated cropland		Dry cropland		Pastureland	
	1,000 acres	Percent	1,000 acres	Percent	1,000 acres	Percent
Northeast	14	0.6	3,309	16.1	985	0.8
Lake States	2/	2/	82	0.4	194	0.2
Corn Belt	3	0.1	204	1.0	336	0.3
Northern Plains	3/	3/	3/	3/	463	0.4
Appalachia	3/	3/	3,905	19.1	2,881	2.4
Southeast	761	35.3	2,657	13.0	5,172	4.3
Delta States	1	0.1	969	4.7	2,457	2.1
Southern Plains	64	3.0	8,332	40.7	57,567	48.2
Mountain States	758	35.1	136	0.7	36,680	30.7
Pacific	556	25.8	897	4.4	12,675	10.6
Inside SMSA 4/	1,143	53.0	8,986	43.9	19,593	16.4
Outside SMSA 4/	1,013	47.0	11,505	56.1	99,818	83.6
Total	2,157	100.0	20,491	100.0	119,411	100.0

1/ For sources and procedures see table 1, footnote 1. 2/ Less than 500 acres. 3/ No reports of rent-to-value ratio less than 2.5 percent. 4/ Standard Metropolitan Statistical Area.

The Southern Plains, consisting of Oklahoma and Texas, contain extensive pasture areas, approximately 25 percent of all pastureland in the contermimous United States. Moreover, 74 percent of all pastureland in the Southern Plains was reported to have a rent-to-value ratio of 0-2.4 percent. For Texas, Pope determined that demand for farmland for hobby farming, small scale ranching, and hunting added significantly to the upward pressure on land values (6). Farmland values were determined more by population density, proximity to urban centers, quality of deer hunting, and aesthetic appeal than by productive value in agriculture.

In a separate paper, Pope and Goodwin note that for hobby and part-time farming, some agricultural enterprises seem more popular than others. Beef cattle operations which utilize pasture are well suited to part-time farming. Dryland wheat production requires a relatively small amount of labor

and management and appeals to many hobby or part-time farmers (7). These preferences may account for the high proportion of pastureland, as well as dry cropland, in the Southern Plains with a rent-to-value ratio of 0-2.4 percent.

Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada contain an even larger grazing acreage than the Southern Plains, 44 percent of all grazing land in the conternimous Unites States. In this region, only 32 percent of the cash rented pastureland had a rent-to-value ratio of 0-2.4 percent, compared to 74 percent in the Southern Plains.

Apparently, the upward pressures on prices of pastureland described by Pope for the Southern Plains are less prevalent in the Mountain States. Nevertheless, they exist in parts of the Mountain States as well as in other regions. As early as 1966, Martin and Jeffries mentioned speculation, tax shelter, and the prestige of owning ranchland as an explanation of why returns from grazing were low in relation to ranch sale prices in Arizona (3).

Table C-2 also reports the number of acres of land, with rent-to-value ratios of less than 2.5 percent, that are located inside Standard Metropolitan Statistical Areas (based on the 1980 Census of Population). Urban demand for farmland does not appear to account for the majority of farmland with a land rent-to-value ratio of less than 2.5 percent. Approximately 45 percent of all cropland and only 16 percent of all pasture are located inside Standard Metropolitan Statistical Areas.

Table C-3 shows percentages of irrigated and dry cropland and pasture in each region that has a rent-to-value ratio of less than 2.5 percent. It also shows the percentage of the total acres in the three land classes having a rent-to-value ratio of less than 2.5 percent.

Cropland with rent-to-value ratios of less than 2.5 percent accounted for less than a quarter of the total cropland area in every region, except for irrigated cropland in the Southeast. For pasture, the percentages are 32 to 74 in every region, except the Corn Belt, Lake States, and Northern Plains.

Looking at the total land area, three groups of regions can be distinguished:

Group 1 - The Lake States, Corn Belt, and Northern Plains, where land with rent-to-value ratio of less than 2.5 percent, make up less than 1 percent of the combined cropland and pasture area. In these regions, nearly all farmland values are determined by farm returns.

Group 2 - In the Southern Plains, factors other than returns from farming determine farmland value on the majority of acres. These include demand for farmland, mainly pastureland, for home sites, hobby farms and ranches, hunting and other recreational uses.

Group 3 - In the remaining six regions, both farm and nonfarm factors are important. For portions of these regions, nonfarm factors are dominant. Regional and State averages of value per acre are raised by nonfarm influences.

Conclusion

Low rent-to-value ratios are most prevalent in the Southern Plains but are also found in other regions outside the Corn Belt, Lake States, and Northern Plains. Nonfarm factors appear to account for persistent low rent-to-value ratios: returns to farmland from nonagricultural sources, nonmonetary return or satisfaction from ownership of farmland, and anticipated capital gains from future conversion to nonfarm uses.

Table C-3--Acres in farmland with rent-to-value ratio of less than 2.5 percent as percentage of total farmland area by farm production region, 1985-87 1/

Region	Irrigated cropland	Dry cropland	Pasture	Total
	Percent			
Northeast	23.0	21.9	38.2	24.3
Lake States	2/	0.2	5.2	0.7
Corn Belt	1.1	0.2	3.0	0.6
Northern Plains	3/	3/	0.8	0.3
Appalachia	3/	15.8	39.8	21.3
Southeast	49.7	17.0	56.5	32.7
Delta States	0.1	5.0	42.0	12.6
Southern Plains	1.5	22.8	73.7	55.5
Mountain	8.5	0.8	31.8	26.6
Pacific	6.7	14.1	59.0	39.2
Total	6.6	6.0	38.3	20.7

1/ For sources and procedures see table 1, footnote 1. 2/ Less than 500 acres. 3/ No reports of rent-to-value ratios of less than 2.5 percent.

Footnotes

[1] Numbers in parentheses cite sources listed in the References.

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